Employment Generation from Affordable Housing

Outcomes of Reall-funded CLIFF projects in Kenya and the Philippines

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Executive summary

(1) This report details the **employment impacts** of affordable home-building programmes funded by the Reall Community-Led Infrastructure Financing Facility (CLIFF) in two countries and three cities:

a) **Kenya** – Nairobi
b) **Philippines** – Cebu/Mandaue and Davao

(2) We develop a **three-way classification** of employment impacts of affordable home building: (1) **Direct** employment during construction; (2) **Indirect** employment during construction from in-country **manufacture** and **supply** of materials, and; (3) **Housing beneficiary** employment before and after occupation.

(3) Much of construction and supply chain work is undertaken informally in both countries. The surveys of beneficiaries and construction workers found that **defining a 'job'** is complex when most individuals and households earn **informally**, have **multiple income streams**, and often precarious employment conditions (see section 2.1.3). When many funders and international organisations speak of *'jobs created'*, we find that the idea of a 'job' in a conventional sense is misleading in these contexts. Instead, our data demonstrates the **number of work-days generated by each housing unit**, and we can establish the **average number of days typically worked** by different levels of construction employee for comparison.

(4) **Direct employment** for construction workers and **Indirect employment** for manufacturers and suppliers are summarised as total work-days per housing unit in Table 1 (also Table 11).

Table 1: Total direct and indirect employment across the three case-study cities

City	Total **Direct Employment**: work-days per house	Total **Indirect Employment**: work-days per house	**Total construction work-days per house**
Nairobi	211.5 (80%)	53 (20%)	**264.5**
Cebu	158.5 (70%)	68.5 (30%)	**227**
Davao	140.5 (68%)	65.5 (32%)	**206**

(5) The survey established the **average number of days worked** in the previous year by different types of construction workers (those directly employed), see Table 2 (also Table 12). The surveys did not collect data for the equivalent workers in the supply chain (indirect employment), however these averages might be used in comparison with the work-days generated by construction units in Table 1, of a potential 312 working days per year.

Table 2: Average number of days worked in the last year for direct employment types:

Cities	Av. work-days per year for **unskilled workers**	*No. surveyed*	Av. work-days per year for **skilled workers**	*No. surveyed*	Av. work-days per year for **management workers**	*No. surveyed*	***Weighted* Average** all worker types
Nairobi	192	16	228	17	204	7	**209.4**
Cebu & Davao	210	7	282	7	294	3	**254.5**

(6) The total work-days per house are a result of different construction techniques, and unit sizes. The **average construction work-days per unit** across the three sites is **232.5 days**. The difference the Cebu and Davao homes can be explained by the smaller size of the Davao houses.

(7) **Indirect employment** makes up a considerably higher proportion of employment generation than estimates in previous research, of between 10-12% (CIBD 2005). In Nairobi indirect employment was 20% of work-days per house, in Cebu 30% and in Davao 32% (Table 1), giving an average of 29%. In the Philippines **indirect employment** therefore makes up a **higher proportion** of the employment impact than in Kenya.

(8) This report provides detail on the working and contractual conditions of construction workers at Reall-funded sites. We recommend that future reporting should include focus on these alongside work-days generated, working towards best-practice defined against the **ILO Decent Work Agenda.** It was notable that, in Nairobi, **unskilled construction workers** felt that they were **better paid** on Reall-funded/NACHU sites than other sites they had previously worked on. In Cebu and Davao unskilled workers regarded their pay as either better or similar to other sites. The majority of unskilled workers across all three case study sites **received informal skills training** on site and were positive that they had gained useful skills on site for future employment. However, in all contexts unskilled and skilled workers faced issues with the **precarity**[1] of their contracts, although such conditions of work are the norm for construction labour in Kenya and the Philippines.

(9) Outcomes for **housing beneficiary** employment are **mixed** at this stage. Between 35-55% of beneficiaries of Reall-supported housing interviewed for this research had changed employment since moving, with just under 50% in each location reporting increased income. Between 72-90% had increased costs as a result of moving, including higher mortgage payments and commuting costs. Households in the Philippines had higher earnings on average after moving. Urban agriculture was more prevalent in Kenya than in the Philippines. For beneficiaries, there was commonly a **delay in moving into new homes**, linked to the need to extend or modify the new homes, delays in construction or services, and possibly because of likely increased commutes.

(10) **Urban agriculture is not taken into account during the construction process** adopted by NACHU in Nairobi, for example through topsoil conservation**.** This could easily be done, by setting topsoil aside before construction begins, and returning to gardens in the completed development.

(11) Our **recommendations** are to:

a) **Monitor direct employment** during construction through weekly site reports.
b) **Monitor** changes in **beneficiaries' employment** and income before and after occupation, and over time.
c) Prioritise **labour-intensive construction methods** which incorporate components of the ILO Decent Work philosophy, and **prioritise the use of locally-manufactured materials**.
d) **Support beneficiaries** in building **entrepreneurship skills and livelihoods capacity**, through promoting: urban agriculture; home-based enterprise; skills in running tuck shops/*sari-sari* shops; setting up business cooperatives; construction employment; improved transport to the site; other training; financial inclusion and monitoring employment change.

[1] As defined by the ILO as casual, seasonal or temporary work (ILO 2017).

Contents

1 Introduction

This research project examined the poorly understood link between the construction of low-income housing and its impact on livelihoods and employment for expanding cities of Africa and Asia. Working in partnership with Reall and their in-country partners, the **aim** of this research was to evidence employment generation from Reall's Community-Led Infrastructure Financing Facility (CLIFF) programmes of affordable home-building in Kenya and the Philippines. In addition, this project developed a robust methodology for the context-dependent measurement of employment-impact of affordable housing programmes.

1.1 Conceptualising a 'job' and work-days

Precisely what a 'job' is in the Kenyan and Philippine contexts was explored during the research. It is already recognised that upgrading and low-income housing construction have significant potential to address concerns of employment generation (Bakker et al. 2000; Das 2015; Jason 2008), particularly through labour-intensive methods which often employ informal workers (Gulyani and Bassett 2007; ILO 2006; Klink 2006). The construction industry therefore has an important role to play in providing employment for the urban poor (Williams 2007), and existing research shows that there should be investment in sustainable and good quality employment in construction (Thwala 2005).

However, there are currently no existing robust measurements for the employment and livelihood impacts of low-income housing programmes. Various international organisations have attempted to define 'a job' by hours, days or weeks worked per year. DFID has defined employment as *'working for at least 20 hours/week for at least 26 weeks/year'* (Fowler and Markel 2014: 9), equivalent to 520 hours of work. The *Donor Committee for Enterprise Development* (DCED[2]) define 'a job' as 240 working days per year (Sen & Kessler 2015), which for a 6-day week equates to 40 weeks' work. The ILO and UNHCS (1997) assumed that 6 months' work (24 weeks) constitutes 'one job', although do not suggest within this definition what this constitutes in terms of days per week and hours per day. These measures range from between 24 and 40 weeks' work a year equating to 'a job', but such measures based on the amount of time worked take no account of pay, conditions of work, or the remuneration needed in different urban contexts. It is also notable that these estimates differ considerably from each other.

One point of comparison is the standard for working hours in law for each country. In Kenya the Employment Act (2007) stipulates that employees should work no more than 52 hours spread over six days per week. In the Philippines, the Labour Code (2011) stipulates no more than 48 working hours per week. However, this legislation is designed to control employee hours, and does not necessarily indicate conditions of 'full' employment or otherwise. Much of the ILOs work is aimed at regulating hours and pay to ensure minimum standards – but this does not necessarily reflect the amount of work time and pay needed to fulfil the minimum livelihood requirements for an individual or household. Alternatively, 'productive employment' is defined as "employment yielding sufficient returns to labour to permit workers and their dependents a level of consumption above the poverty line" (Szirmai et al. 2013: 4). This definition suggests that creation of productive employment should be defined contextually, rather than being based on an international standard linked to hours and pay.

Defining a 'job' in these contexts therefore is complex, as those working informally, and indeed formally, often construct their livelihoods from multiple sources of income. This is also true for construction workers, as we detail in the evidence presented below. Even if construction workers are

[2] DCED is a forum for intergovernmental and funding agencies promoting development through private sector enterprise, initially convened by the World Bank and now member-based.

primarily working in construction (i.e. they are not engaging in multiple sources of work), the tendency for them to be employed in daily or weekly work, which our evidence demonstrates, means that any work generated from a construction site is difficult to define as a 'job' in a conventional sense, and to do so may be misleading.

In this report we advocate that the basic concept of 'a job' is not a useful way to report on the amount of work generated for direct and indirect employment from construction, nor is it a useful reflection of beneficiary livelihoods. Labour-intensive practices can contribute significantly to improving the amount of employment generated from construction (ILO 2006; McCutcheon 2001; Majale 2008), and we advocate here that the cumulative number of work-days generated by construction (e.g. per housing unit) is a better framework for measuring how relatively labour-intensive construction projects are – as compared to the typical amount worked and earned by construction workers in each country.

1.2 The ILO 'Decent Work Agenda' (DWA)

The nature of construction work, particularly for skilled and unskilled labourers in contexts such as Kenya and the Philippines, is typically precarious, in that it is often casual, seasonal or temporary (ILO 2017). There are various ways that low-income housing projects might seek to improve the conditions of work for construction workers, beyond simply generating employment. Current trends in reporting on 'jobs created' do little to measure, report on or address these other important components of work which may, particularly for those working informally, be more or as important as securing more permanent contractual arrangements.

As a measure of working conditions, in 1999 the ILO adopted the concept of 'decent work' as a core agenda (ILO, 2013). Decent work is conceptualised through four key 'pillars': sustainable employment; social protection; social dialogue, and rights at work (Lawrence et al. 2008; ILO 2008b), as a multidimensional concept associated with a range of indicators. The number of indicators involved in measuring 'decent work' are large, and currently designed around national-level or large-scale reporting. However, some offer useful indicators for improving the quality and security of work, and the most relevant for this report are:

- *Living wage:* Wages greater than the country's minimum wage, and taking the worker and average dependents above the poverty line;
- *Net income change*: Additional wages earned compared to those earned previously;
- *Job displacement:* The extent to which new jobs displace other jobs;
- *Excessive working time:* Defined as over 48 hours per week (ILO 2008a);
- *Stability and Security at work:* Measured as the 'precarious employment rate' at the national level by the ILO (2008; 2016; 2017). Precarious employment is defined as work types such as casual, seasonal or temporary.
- *Skill creation:* Particularly important for the transformation of unskilled to medium-skilled jobs (Teal 2015).

The results discussed below demonstrate how some of these components of 'decent work' might be measured and reported on for construction workers. We argue in this report that, in addition to measuring and reporting on work-days generated, future projects might seek to report against multiple indicators that demonstrate a commitment to encouraging 'decent work' in construction.

Our research did not seek to capture data around several of the other core components of the Decent Work Agenda, including 'rights at work', 'social protection' and 'social dialogue' – as this was beyond the scope of the current study. However, these components might be considered for future studies. For example, the ILO (2008) uses such measures as union density rate, enterprises belonging to employer organisations and collective bargaining coverage rates as measures of good social dialogue

and worker's representation. Nor did our survey attempt to capture data relating to the 'safe work environment' component of the Decent Work Agenda (ILO 2008), such as occupational injury rates.

1.3 Methodology

The data collection for the research was conducted in two phases:

- **Pilot Phase** (funded by Reall) – September 2016: Piloted the methodology across project sites in Nairobi, Kenya.
- **Main Phase** (funded by Cardiff University HEFCW GCRF funds) – September-November 2018: rolled-out the methodology in Nairobi (Kenya) and Cebu and Davao (Philippines).

The methodology was informed by our three-fold classification of employment impacts of affordable home building (see Table 3). This classification includes:

1) **Direct** employment generated during construction, broken down into **unskilled, skilled** and **management and administration** labour, including professional office support;
2) **Indirect** employment during construction, including in-country **manufacturers** and **suppliers** of materials to the project;
3) **Housing Beneficiary** employment before and after occupation.

Table 3: Employment Impact Classification

Employment Impact Classification	Employment Beneficiaries	Method
1. **Direct** employment during construction	Construction workers and professional Support	- Construction worker survey - Key-Informant interviews
2. **Indirect** employment during construction	Manufacturers and suppliers	- Manufacturer and supplier survey
3. **Housing Beneficiary** employment	Housing beneficiaries	- Beneficiary household survey - Key-informant interviews

A **survey** was designed for each classification, administered by local research assistants. **Key informant interviews** were also conducted by the project team with Reall partners, construction site managers and contractors. Table 4 summarises the number of respondents to the surveys collected across the three study sites:

Table 4: Number of respondents surveyed by category and study location

Study Site	Construction Workers Survey	Manufacturers and Suppliers Survey	Beneficiaries' Household Survey	Key Informant Interviews
Nairobi	40	49	68	15
Cebu	12	26	44	9 (+6 Manila)
Davao	5	29	24	6
Totals	**57**	**104**	**136**	**36**

1.4 Project partners and housing characteristics

The research project worked directly with two of Reall's in-country partners, in order to offer an international comparison between two housing programmes and approaches:

1. NACHU (National Cooperative Housing Union of Kenya): The research sampled several sites on the outskirts of Nairobi where NACHU has completed or is still constructing affordable homes. NACHU has purchased land affordable to the project in peri-urban locations outside Nairobi, and assists low-income community savings organisations to form and save.

NACHU homes are either 'core housing' (minimal two-room dwellings) or small 1-2 bedroom homes, designed to be incrementally expanded by beneficiaries over time. Housing design is principally done by NACHU, and building work carried out by construction contractors, who handle the supply of materials. NACHU works mainly with community groups formally registered as cooperatives, either as SACCOs (savings and credit cooperatives) or housing cooperatives. Some groups are already registered as cooperatives when they approach NACHU, and others are informal groups whom NACHU supports through the registration process. NACHU supports the cooperatives in developing their savings capacity. Community groups are consulted on the design and location of housing, but have limited direct involvement in the construction process. However, the primary contractor had a policy of hiring unskilled workers from nearby the sites, and if possible, from beneficiary families. However, as construction sites were typically some distance from the existing residences of beneficiaries the impact of this on beneficiary employment was limited. Homes are usually constructed with cut-stone blocks, steel reinforcements and iron roofs. Houses are usually semi-detached or detached, single-storey units on sizeable plots allowing for home expansion and providing some limited space of urban agriculture.

Figure 1: Examples of NACHU core one-bedroom housing units. Top left: Housing unit under construction and near completion; Top right: After occupation with small planted garden, but no house expansion carried out by the beneficiary; Bottom left: right-hand house undergoing significant extension after occupation, left-hand house is the original two-bedroom dwelling at Royal Estate, Nairobi.

2. **Philippine Alliance:** The Alliance is formed of five linked organisations: **HPFPI** (Homeless People's Federation Philippines, Inc.); **PACSII** (Philippine Action for Community-led Shelter Initiatives, Inc.); **TAMPEI** (Technical Assistance Movement for People and Environment, Inc.); **LinkBuild,** which was established to integrate the functions of the previous three organisations; and **CORE-ACS** which, as the financial arm, provides loans to communities. These organisations work collaboratively to coordinate the financing, design and construction of low-income homes.

In Cebu/Mandaue, the Alliance has constructed affordable homes both in-situ within existing informal settlements and on reclaimed wetland donated by the state, outside the existing settlement but within commuting distance from employment locations in the city centre and port. However, land availability for affordable home construction within the municipal jurisdiction is very limited. In Davao, the municipality covers a large land area, and affordable homebuilding is taking place in peri-urban locations. The Alliance's projects have considerable community involvement in home design, project management (e.g. procurement), and construction in the form of 'sweat equity'. Homes are typically constructed of interlocking compressed earth blocks (ICEB) made on-site, with some concrete and steel reinforcements. The housing in Cebu/Mandaue is two-storey terraces with shared alleyways. In Davao, the peri-urban housing is single-storey on plots with small gardens.

The two partners therefore offered significant contrasts in terms of the nature and location of the homes built (with implications for beneficiary employment), the organization and management of the construction process, and the level of involvement of communities in the project.

Figure 2: Examples of LinkBuild housing: Top left: loftable (three-storey) units build off-site (on new reclaimed land) in Mandaue; Top-right: two-storey non-loftable units built on-site (in existing informal settlements) in Cebu next to the ubiquitous basketball court; Bottom left: detached bungalow units build off-site and in a peri-urban location in Davao.

2 Direct employment during construction

2.1 Work-days of construction work per site/unit

A core concern of this project was establishing the number of work-days required in the construction of each unit or site. Two methods were used. Contractors and project managers were asked to provide information on the number of skilled, unskilled and management staff involved in different projects. Construction workers were asked how many weeks they worked a year, and how long they had worked on the Reall-funded site. However, these figures are based on self-reporting and are therefore not entirely accurate measurements of an individual's time on site. As the number of construction workers surveyed was relatively small, to verify the figures a larger survey should be undertaken over the lifetime of a project.

Whilst our surveys were not able to capture the number of workers on site over the entirety of a building project, project staff told us that this data could easily be collated from existing data collected by housing federation reporting mechanisms. In the case of these housing projects, the number of work-days on site for different types of construction workers is collected by housing federations (NACHU in Nairobi; SMASH and LT-HAI in Cebu; SAMASOL in Davao[3]) and their contractors in their weekly site reports.

This data could be considerably improved, either by asking project managers to submit weekly site reports of the numbers of workers on site, or through daily electronic recording of the number of workers on site. A sample site could use this method for the lifetime of a building project.

2.1.1 Nairobi work-days per site/unit

The following estimates (Table 5) are taken from one of two contracts on the Malaa construction site (Contractor: Pemu). The whole site produced 228 units, and the contract examined for Pemu was for 108 units. The number of workers on site, by trade, is recorded to NACHU once a week in the Weekly Site Report. Contractors multiply this data by 6, to give an estimate of person-days on site – thus producing a more 'averaged' estimate of work-days because of the unavailability of complete timesheet records.

Table 5 - Nairobi: Construction work-days taken from Malaa (NACHU) site report

	Days on site (6 days/ week)	*Workers on site/ day*	*Percentage of workforce*	*Total work-days*
Unskilled	156	80	58.8	12,480
Skilled	156	50	36.8	7,800
Management	156	6	4.4	936
Total		136	100	21,216

Given that **108 units** were constructed on the Malaa site and the **total work-days** for the **site** is **21,216**, then this means that **the total construction worker work-days per unit** equates to **196.**

[3] LT-HAI (Lower Tipolo - Homeowners Association Incorporated); SMASH (Sitio Mahayag Alliance of Structured Household Homeowners Association Incorporated); MMV-HAI (Malibu Mattmco Village – Homeowners Association Inc.) – MMV-HAI was complete, so was not included in the construction workers survey.

2.1.2 Cebu and Davao work-days per site/unit

The following estimates are taken from site reports (counting the work-days and overtime to produce a more accurate estimate of work-days for construction) provided by SMASH, LT-HAI (Tables 6 & 7) and SAMASOL (Table 8) as well as discussions with the organisation and construction teams. ICEB production was not included in the Cebu site reports, so figures have been taken from key informant interviews.

Table 6 - Cebu: Construction work-days taken from Paknaan (SMASH) site report

	Days on site (5-6 days/ week)	*Workers on site/ day*	*Percentage of workforce*	*Total work-days*
Unskilled	148	7	58.3	1,036
Skilled	156	4	33.3	624
Management	70	1	8.4	70
Total		12	100	1,730

If the total work-days for the construction work in Cebu on the SMASH site is 1,730 and the estimated work-days for ICEB production is 255, then the total paid construction worker work-days is 1,985. Add in sweat equity provided by beneficiaries (an additional 50% of the labour force) and the total work-days is 2,978. As **17 units** were constructed at the **Paknaan (SMASH) site in Cebu** the **total construction work-days per unit** is **175.**

Table 7 - Cebu: Construction work-days taken from Tipolo (LT-HAI)[4] site report

	Days on site (5-6 days/ week)	*Workers on site/ day*	*Percentage of workforce*	*Total work-days*
Unskilled	145	7	53.8	1,015
Skilled	160	5	38.5	800
Management	80	1	7.7	80
Total		13	100	1,895

The total work-days for the construction work in Cebu on the Tipolo (LT-HAI) site is 1,895 and the estimated work-days for ICEB production is 480, producing a total paid construction worker work-days of 2,375. Adding in sweat equity provided by beneficiaries (additional 50% to the labour force) brings the total work-days to 3,563. As **32 units** were constructed at the **Tipolo (LT-HAI) site in Cebu**the **total construction work-days per unit** is **111.**

Table 8 - Davao: Construction work-days taken from Los Amigos (SAMASOL) site report

	Days on site (5-6 days/ week)	*Workers on site/ day*	*Percentage of workforce*	*Total work-days*
Unskilled	548	3	33.3	1,638
Skilled	278	4	44.4	1,110
Management	546	2	22.3	1,092
Total		9	100	3,840

Since **46 units** were constructed at the **Los Amigos site in Davao** and the total work-days for the site is 3,840, then this means that the total paid construction worker work-days per unit equates to 83. Again, including beneficiary sweat equity the **total construction work-days per unit** equals **125.**

[4] Note that this project was not funded by Reall but by ACCA (Asian Coalition for Community Action) and SELAVIP (Latin American, African and Asian Social Housing Service) sourced by ACHR (Asian Coalition for Housing Rights), but the sites were used as proxies due to their similarities with Reall-funded sites.

The differences between these figures may be accounted for by house type. The units constructed at the SMASH site are a two-storey terrace with a convertible loft. The houses in Tipolo (LT-HAI) were also two-storey terraces but had no loft and were therefore smaller. The core house in Davao is only one-storey, although with a larger floor area.

2.1.3 Professional and managerial support

Based on interviews with NACHU key informants NACHU, Kenya, in 2016, we are able to estimate the additional work-days generated by professional and managerial support from build projects. Note that we were unable to collect comparable data in the Philippines, where there are slightly more complex arrangements between different organisations working at the national office and in local city-based offices.

At NACHU, professional and managerial support includes:

- NACHU staff, including financial officers, architect, project managers and officers, administration and training officers;
- senior staff in contacting companies, and
- loan officers who collect payments after the site occupation.

Estimates suggest that 15 people are directly employed within NACHU, who on average spend about 49.6% of their time on CLIFF projects. Over the year from April 2015 to March 2016, 161 core units were completed (although note this does not take into account units or sites part-constructed during this year). NACHU office staff work a six-day week, and we assume that they take two-weeks annual leave per year. Table 9 shows that office staff work generates an additional 13.86 work-days per unit.

Table 9: Work-days per unit of NACHU office staff

	Total staff	*Total work-days per year*	*Work-days on CLIFF projects (49.6%)*	*Total work-days*	*Units completed in period*	*Work-days per unit*
NACHU Staff	15	4,500	2,232	1,638	161	**13.86**

Key informant interviews with NACHU and contractor (PEMU) staff suggested that approximately seven people from the engineering and contracting companies attend site meetings once a week for the PEMU contract at Malaa (108 units). We assume that each of these meetings is a half-day.

Table 10: Work-days per unit of site meeting attendees

	Total staff	*Total work-days per year*	*Units completed in period*	*Work-days per unit*
PEMU Meetings	7	175	108	**1.62**

This additional 1.62 work-days per unit, added to the 13.86 office days per unit of NACHU staff, gives a total additional **15.5 work-days per unit**, which we consider to be part of direct employment. This represents an average of **10.5% additional work-days** added to direct employment work-days across all three case study sites.

It should be noted that there are a number of other affiliated roles that have not been accounted for here. NACHU, for examples, employs loan officers and debt collectors to manage a portfolio of mortgage accounts. Other related employment might include land brokers and agents, and micro-finance services supporting the loan process.

2.1.4 Construction workers: work-days per year compared to work-days per unit

In this report we have calculated the **average work-days per year**, i.e. is the average number of days worked in the previous year by different types of construction workers (those directly employed), as reported by interviewees. These are summarised in Tables 9 and 10 below. These data were only collected for direct employment, not the supply chain, but nevertheless these averages might be used in comparison with the total direct and indirect employment generated in terms of work-days per unit.

Comparing average work-days per year with work-days per unit:

Because of the various complications with defining 'a job' for all levels of construction workers, our data is best used to compare the work-days generated per unit with the average number of work-days worked for different types of construction worker. A summary of the work-days per house in each study location is provided below. Note that we have added the additional office staff days (15.5 days per unit) to 'direct employment', assuming that this number of office days will be similar in Cebu and Davao as for Nairobi, although more local data would be needed to confirm this. These data assume a 6-day working week, with a total of 312 days per year available as possible work-days.

Table 11: Total direct and indirect employment across the three case-study cities

City	Total **Direct Employment**: work-days per house	Total **Indirect Employment:** work-days per house	**Total construction work-days per house**
Nairobi	211.5 (80%)	53 (20%)	**264.5**
Cebu	158.5 (70%)	68.5 (30%)	**227**
Davao	140.5 (68%)	65.5 (32%)	**206**

Our survey established the **average work-days per year** in the previous year by different types of construction workers (those directly employed). These are summarised in Table 12 below.

Table 12: Average number of days worked in the last year for direct employment types

Cities	*Av. days worked per year for **unskilled workers***	*No. surveyed*	*Av. days worked per year for **skilled workers***	*No. surveyed*	*Av. days worked per year for **management workers***	*No. **surveyed***	***Weighted Average** across all worker types*
Nairobi	192	16	228	17	204	7	**209.4**
Cebu & Davao	210	7	282	7	294	3	**254.5**

A useful way of assessing how much work is provided by a Reall-funded site is to **compare the total construction work-days per unit, with the average work-days per year** (see section 3.2). It should be noted however that our surveys did not collect data for the equivalent workers in the supply chain (indirect employment), due to the complexities of the different supplier and manufacturer types, and the different employment conditions across these types. These data also only tells us the reported *average* amount of days worked over a typical year for construction workers – it does not tell us that this work was adequate to meet their annual livelihood needs (hence the complications with titling this employment generated 'a job'). Nonetheless, comparing the data for work-days in the two tables above is useful for assessing the amount of work provided for different worker types per unit.

2.2 Construction worker employment conditions

The research also explored employment conditions on Reall sites. The questions asked to construction workers were partly guided by the ILO decent work agenda (ILO 2013), discussed in detail above. 'Decent work' is a multidimensional concept associated with a range of indicators, and although not all are addressed here, our data give some indication of the likely livelihood impact of the employment provided through these construction projects, primarily focused on the 'sustainable employment' component of 'decent work'. All construction worker statistics were divided by worker types: Unskilled, Skilled (e.g. masons), and Management & Administration.

2.2.1 Nairobi construction worker characteristics

Out of the 40 construction workers interviewed in Nairobi 16 were unskilled, 17 were skilled, and 7 worked in management and administration. 87.5% were male. Full data can be found in Appendix A.

Table 13 - Summary of construction worker characteristics in Nairobi

Worker type	*Average daily pay (KSH)*	*% on either daily or weekly contracts*	*Average no. idle days per year*	*% with secondary employment*
Unskilled	560.5	93.8	133.2	25
Skilled	1,003	58.9	56.25	25
Management	1,972	42.9	70.8	14.3

Unskilled

Unskilled workers were typically **younger** than their skilled counterparts (62.6% under the age of 36), have a **higher number of household dependents** (3 on average) and have achieved a comparatively **lower level of education** (only 12.5% had completed college or other higher education). They also tended to have **less security of contract** – the majority of unskilled workers are daily or weekly labourers (93.8%) and the remainder are on short-term contracts (Table 13).

> Unskilled workers tend to be younger, have more dependents and have achieved a lower level of education.

On average unskilled workers had considerably **less experience** working in the construction industry. They reported taking home a **lower wage** on average than their skilled counterparts – **KSH 560.5 (USD 5.58) per day** based upon a 6-day working week (Table 13). Unskilled workers reported that they regarded their work as **less stable** than skilled workers, and a half thought it was unlikely that they would have easily found employment at another site.

> 93.8% of unskilled construction workers are on weekly contracts.

> Only 25% of unskilled workers have secondary employment, despite being idle for 133 days on average over the last year.

Unskilled workers had a significantly **higher number of day's idle** over the last year (average 133 days) compared to other workers. A quarter hold down 'secondary employment' (Table 13), which is often very important for low-income earners in the global South.

A large proportion of unskilled workers **stay on site** during the working week **or walk to work**, which is reflected in their generally shorter commutes. The majority (80%) believe their **income has risen over the last three years**, and that their current construction site (NACHU/Reall-funded) **paid better than**

other sites they had worked on. This last finding is a very positive reflection of NACHU sites for low-income unskilled workers. The majority had received some **informal training on site** (78.6%), but none had received formal training. However, the majority (93.3%) were positive that they had **gained useful skills on-site** which would help them find work elsewhere.

> 93.3% of unskilled workers believe the skills they have gained on-site will help them to gain better employment.

Skilled

Skilled workers were more typically **spread across the age ranges**, and included several workers over 55, suggesting that moving into skilled work is perhaps more sustainable in the long-term, or is a more likely outcome for those who stay working in construction throughout their careers. Skilled workers have **fewer dependents** than unskilled workers, and a significant proportion (29.5%) have completed college or other higher education.

> Skilled workers vary most in age, have fewer dependents, and 29.5% have completed higher education.

On average, skilled workers have spent a **greater length of time training** for their work (10.5 months on average) and more have permanent contracts than unskilled workers, although the majority remain on **weekly or short-term contracts** (76.5%) (Table 13). On average skilled workers had spent considerably more time in their current profession than unskilled workers and their reported **higher daily pay** reflects this – **KSH 1,003 (USD 9.99) per day** (Table 13). A higher percentage (70.6%) of skilled workers considered their jobs were **stable** compared to other types of workers, but a similar percentage (25%) had some form of **secondary employment** (Table 13). Overall, their employment is more **secure** as more skilled workers (82.4%) felt that they would find work elsewhere if they were not working at this current site.

> Skilled workers have spent the most time training for their position, which is reflected in a higher wage (almost twice that of unskilled workers).

Unlike unskilled workers, skilled workers were equally split as to whether their pay on Reall-funded/NACHU sites was higher, similar or lower to other construction sites. Fewer were receiving any formal or informal training on site than unskilled workers, although 76.5% are involved in **training others on site**. This data suggests that skilled workers are, as expected, better off, better trained, and have more stable positions that unskilled workers. A positive outcome of this survey is that there is clearly ongoing informal training on site given by skilled workers to unskilled workers, which is perceived to improve prospects for secure work in the future.

> 76.5% of skilled workers are involved with training others on-site.

Management and Administration

Only seven management or administration staff were surveyed, making wider assumptions more difficult. However, compared to unskilled and skilled workers they had a **higher level of educational attainment**, with 40% completing higher

> The majority of management/ administration staff felt their wages at NACHU sites were similar to other construction sites and had been stable over the last three years.

education. They have a **significantly higher income** than all other workers (almost double skilled workers' average wage), although this data may have been skewed by one high-earning manager who reported earning KSH 6,667 (USD 66.5) per day. Excluding this individual, the average daily pay for managers and administrative staff would be KSH 1190 per day, rather than KSH 1972. Managers and administration staff are also more likely to be on **permanent contracts** (28.6% compared to 11.8% of skilled workers and no unskilled workers). Unlike unskilled workers the majority (83.3%) felt that their **wages on the Reall-funded/NACHU site were similar to other sites**, and only a third stated that their income had increased over the last three years.

2.2.2 Cebu and Davao construction worker characteristics

The Philippines construction worker dataset is a combination of study data collected in Cebu and Davao in November 2018. Out of the 17 construction workers interviewed in the Philippines, 7 were unskilled, 7 were skilled, and 3 worked in management and administration. All were male. Full data can be found in Appendix B.

Table 14 - Summary of construction worker characteristics in Cebu and Davao

Worker type	*Average daily pay (PHP)*	*% on either daily or weekly contracts*	*Average no. idle days per year*	*% with secondary employment*
Unskilled	313	71.4	123	28.6
Skilled	500	85.7	45	42.9
Management	550	33.3	41	33.3

Unskilled

Unskilled workers tend to be younger, have more dependents and have achieved a lower level of education.

Unskilled workers are typically **younger** than their skilled counterparts (71.5% under the age of 36), have a **higher number of household dependents** (6 dependents on average) and have achieved a comparatively **lower level of education** (none had secondary school or higher education). They also have **less security of contract** – all unskilled workers were on daily, weekly or short-term contracts.

57.1% of unskilled construction workers are on weekly contracts.

On average unskilled workers had **reasonable experience** working in the construction industry, considerably less than management staff, but more than their skilled counterparts. They reported taking home a much **lower wage** on average than their skilled counterparts – **PHP 313 (USD 6.05) per day** based upon a 6-day working week (Table 14). Some unskilled workers reported that they regarded their work as **less stable** than skilled workers, but opinion was split 50%. More than half (57.1%) thought it was unlikely that they would have easily found employment at another site.

Only 28.6% of unskilled workers have secondary employment, despite being idle for 123 days on average over the last year.

Unskilled workers had a significantly **higher number of idle days** over the last year (123 days on average) compared to the other workers. 28.6% of unskilled workers hold down any form of 'secondary employment', marginally higher than in Nairobi (Table 14).

A large proportion of unskilled workers **stay on site** during the working week (66.7%), which is reflected in their generally shorter commutes (33.3%) or weekly travel to the site (50%).

71.4% of unskilled workers believe the skills they have gained on-site have improved their employment prospects.

The majority (60%) believe that their **income has been stable over the last three years**, and that their current construction site **paid better than or similar to other sites** they had worked on (83.3%). This last finding is a very positive reflection of LinkBuild sites for low-income unskilled workers. The majority had received some **informal training on site** (71.4%), but none had received formal training. However, the majority (71.4%) were positive that they had **gained useful skills on site** which would help them find work elsewhere.

Skilled

The majority (71.5%) of skilled workers were between the ages of 26 and 55, including one over the age of 55. Skilled workers had **fewer dependents** than unskilled workers (2 dependents on average), and a significant proportion (71.5%) have enrolled in or completed secondary education.

Skilled workers tend to be between 26-55 years old, have few dependents and have enrolled in or completed secondary education.

Skilled workers are either on **weekly** (85.7%) **or short-term contracts** (14.3%) (Table 14). Surprisingly skilled workers had spent considerably less time in their current profession than unskilled workers (which may be as a result of the small data set) but reported receiving **higher daily pay** – **PHP 500 (USD 9.66) per day** (Table 14). A fractionally higher percentage (57.1%) of skilled workers felt their jobs were **stable** compared to unskilled workers (50%), and nearly half (42.9%) had some form of **secondary employment,** considerably higher than their counterparts in Nairobi. All skilled workers were confident that they would find work elsewhere if they were not working at this current site.

Skilled workers were divided on whether their pay on Reall-funded sites was higher (42.9%) or lower (57.1%) than other construction sites. Few were receiving any formal or informal training, although 71.4% are involved in **training others on site**. This data suggests that skilled workers are, in some respects, better off and in more stable positions than unskilled workers.

The majority of skilled workers (71.4%) are involved with training others on-site.

Management and Administration

Only 3 management or administration staff were surveyed, making wider assumptions very difficult. However, compared to unskilled and skilled workers they tended to be older, and more likely to have completed secondary education (33.3%). They have a **marginally higher income** than skilled workers (Table 14), despite having considerably more experience (average 16 years) and training (average 20 months) in their profession, and many more days working on a Reall-funded site (520 days on average). Furthermore, two of the three considered that the Reall-funded site paid more than other construction sites. A third of managers and administration staff are on **permanent contracts** (33.3%).

2.3 Construction worker income data comparison

Income data may be a further way to estimate the contribution that direct construction work provides for different worker types to more secure livelihoods. Whilst this report does not have data for construction workers across the national context with which to compare our dataset, we provide a summary of income data here for future comparisons. We are able to compare this data with expected minimum wages in each country.

2.3.1 Summary Income data for Nairobi

Table 15 below summarises how we calculate yearly earnings, based on the number of self-reported weeks worked per year for different worker types. All worker types in Nairobi worked an average 6-day working week, such that the average number of days worked per month is 26. A total working year is therefore 312 days, and we assume that no 'leave' is taken, or that this is incorporated into the average number of weeks not worked per year.

Table 15: Yearly Earnings from averaged days worked and average daily pay

Worker type	*Av. no. of weeks worked over past year*	*Av. days per year (of possible 312; 6-day week)*	*Average daily pay (KSH)*	*Yearly earnings (days x daily pay)*
Unskilled	32	192	560.5	107,616
Skilled	38	228	1,003	228,684
Management	34	204	1,972	402,288

Table 16 provides the average wages per day of all worker types in KSH and USD by day, month and year. At the time of data collection 1USD was worth KSH 100.448.

Table 16: Average wages by day, month and year

Worker type	*Average daily pay (KSH/USD)*	*Per monthly pay (6-day week = 26 days) (KSH/USD)*	*Av. monthly earnings adjusted for days worked per year (KSH/USD)*	*Yearly earnings (days x daily pay) (KSH/USD)*
Unskilled	KSH 560.5 USD 5.58	KSH 14,573 USD 145.08	KSH 8,968 USD 89.30	KSH 107,616 USD 1,071.36
Skilled	KSH 1,003 USD 9.99	KSH 26,078 USD 259.62	KSH 19,057 USD 189.65	KSH 228,684 USD 2,276.64
Management	KSH 1,972 USD19.63	KSH 51,272 USD 510.43	KSH 33,524 USD 333.75	KSH 402,288 USD 4,004.94

Minimum wages for urban areas including Nairobi between 2015-2016 ranged from KSH 10,955 to 24,720 per month (Kenya Gazette Supplement 2015).

- **Unskilled construction workers** are likely to be in the lowest three grades of the minimum wage order, between **KSH 10,955 and 12,221**.
- **Skilled workers** are likely to fall into the 'artisan' categories of the minimum wage order, between **KSH 14,785 and 24,719**.

Our income data suggests that unskilled workers are making over minimum wage per day, but when we adjust their monthly earnings for the number of weeks worked per year, we find that their earnings fall below minimum wage. It should be noted however that these data only accounts for earnings from construction work, not other secondary income sources. Skilled workers fall within the minimum wage

bracket even when their wages are adjusted for weeks worked per year, and would exceed it if they had more steady work.

2.3.2 Summary Income data for Cebu and Davao

Table 17 below summarises how we calculate yearly earnings for Cebu and Davao. All worker types worked a 6-day week, with an average of 26 days per month, and as above we assume the total days worked per year is 312.

Table 17: Yearly Earnings from averaged days worked and average daily pay

Worker type	Av. no. of weeks worked over past year	Av. days per year (of possible 312; 6-day week)	Average daily pay (PHP)	Yearly earnings (days x daily pay)
Unskilled	35	210	313	65,730
Skilled	38	228	500	114,000
Management	34	204	550	112,200

Table 18 provides the average wages per day of all worker types in PHP and USD by day, month and year. At the time of data collection 1USD was worth PHP 51.736.

Table 18: Average wages by day, month and year

Worker type	Average daily pay (PHP/USD)	Per monthly pay (6-day week = 26 days) (PHP/USD)	Av. monthly earnings adjusted for days worked per year (PHP/USD)	Yearly earnings (days x daily pay) (PHP/USD)
Unskilled	PHP 313 USD 6.05	PHP 8,138 USD 157.30	PHP 5,477.5 USD 105.87	PHP 65,730 USD 1,270.49
Skilled	PHP 500 USD 9.66	PHP 13,000 USD 251.28	PHP 9,500 USD 183.63	PHP 114,000 USD 2,203.50
Management	PHP 550 USD 10.63	PHP 14,300 USD 276.40	PHP 9,350 USD 180.73	PHP 112,200 USD 2,168.70

The most recent data for minimum wages in the Philippines comes from the Department of Labour and Employment (2018). Each region, and sometimes cities within regions, have different minimum wages. The minimum wages for the two relevant regions are:

- Davao region – Non-Agricultural Workers = **PHP 340 per day**
- Cebu/Mandaue Cities – Non-Agricultural Workers = **PHP 366 per day**

Unlike in Kenya, there are not indicative minimum wages for different classes of workers within the 'non-agricultural' sector. Unskilled workers were therefore earning just under minimum wage per day, according to our survey, whilst skilled and management workers clearly earnt over minimum wage.

Comparing each country-context, although the average daily pay in USD is similar between Nairobi (USD 5.58) and Cebu/Davao (USD 6.05), workers in the Philippines are likely to accumulate a larger income over the course of a year because they typically work more weeks per year. However, note below in section 2.4 the other factors which may make construction workers in the Philippines comparatively worse-off. Skilled workers in both country contexts earn a similar income and work similar weeks per year. Management and administrative workers are less well-paid in the Philippines, although our data set for each country at this level of employee is small.

2.4 Construction workers: international comparison summary

The tables below summarise some of the comparators between the characteristics of the construction workers surveyed for this research.

Table 19 - Construction worker person characteristics

	Number of dependents	*% completed secondary level education*	*% weekly contract*	*% secondary employment*
Nairobi, Kenya	2	26.3	60	23.1
Cebu &Davao, Philippines	4	17.6	64.7	35.3

Overall construction workers in the Philippines were likely to be marginally worse off than their counterparts on Kenya (even though their total yearly income is higher), with a higher number of dependents, lower-levels of education, which most likely accounted for a higher proportion in the Philippines having secondary employment as well.

Table 20 - Construction worker career profiles

	% with stable work over last 3 years	*% income increased over last 3 years*	*% believe likely to find work elsewhere*	*Av. no. years doing current work*
Nairobi, Kenya	61	65	61.5	7.3
Cebu &Davao, Philippines	56.3	33.3	74.1	9

The career profiles of construction workers present a more mixed picture. In Kenya it was apparent that a higher percentage of construction workers in our survey reported their incomes going up compared to the Philippines, although on average construction workers in the Philippines had spent longer in their jobs and thought it more likely that they would find work elsewhere.

Table 21 - Impact of Reall on construction workers

	% training on site	*% gained skills*	*% believe skills gained improve employment*	*% state Reall-funded site wages higher*
Nairobi, Kenya	57	79	97	47
Cebu &Davao, Philippines	52.9	70.6	87.5	50

Overall construction workers were positive about their work on Reall-funded sites. Construction workers in Nairobi were marginally more likely to agree that they had received training and gained skills which would improve their employment.

3 Indirect employment during construction

3.1 Manufacturing and supply work-days per site/unit

The data from which the following figures have been calculated are from interviews with informants at manufacturing and supply businesses local to the construction sites. This method of data collection distinguished between manufacture and supply work-hours and limited the work-days to in-country labour. For example, the production and supply of timber was found to be located entirely in-country, but the supply of imported materials for steel were not included. Therefore, our data represents in-country indirect employment generated by the construction projects.

3.1.1 Nairobi manufacture and supply of housing materials

Methods: The total materials used in the construction of each housing unit were calculated from the Bill of Quantities (BOQs) for a NACHU site in Nairobi. Interviews with NACHU staff confirmed that the quantities used on site differ only marginally from the predicted BOQs. For each of the major materials used on site (e.g. quarried stone bricks, wood, hardcore etc.) manufacturers and suppliers along the value chain were surveyed, noting the number of employees at the premises and the total amount of material 'output' of the businesses per day. This data was used to generate multipliers which allowed for the amount of materials used on a project to be converted into 'work-hours'. Of note, in the Nairobi area, cement and steel are supplied by large-scale formal companies, but most stone, sand and timber supplies are by made by small-scale enterprises. Working conditions in the stone quarries are poor, but these are the main source of supply for construction projects in Nairobi.

The **manufacture** of materials needed for the construction of an 'average' NACHU house takes **297 work-hours per house** (equivalent to 37 days' work). Additionally, it takes **128 work-hours per house** (the equivalent of 16 days' work) to **supply** the materials to the site. Therefore, in **total**, the **manufacturing and supply employment** required for the construction of one NACHU house is **425 work-hours per house, or 53 days' work** (see Appendix F for full calculations).

> The manufacture and supply of materials needed for the construction of a NACHU house is 53 days' work per house.

3.1.2 Cebu manufacture and supply of housing materials

In Cebu, the materials used by LinkBuild in house construction differs from Nairobi, with the use of ICEB and concrete hollows blocks (CHB) for walls, but the quantities and work-hours per material were calculated from the BOQs and survey data in the same way. In Cebu/Mandaue houses were terraced, with designs developed by LinkBuild in collaboration with project beneficiaries. New homes are constructed within existing areas of informal dwellings on site (Tipolo – LT-HAI) or on reclaimed land where previous informal settlement dwellers have moved to (Paknaan - SMASH). Therefore, two sets of figures have been calculated, one for loftable row housing in the former location and the other for two-storey row housing in the latter.

> The manufacture and supply of materials needed for the construction of a house in Cebu is 68.5 days' work.

The **manufacture** of materials needed for the construction of *loftable row housing* in Tipolo (LT-HAI) has been calculated as **346 work-hours per house** (equivalent to 43 days' work), and the **supply** of materials as **123 work-hours per house** (equivalent to 15.5 days' work). In **total**, the manufacture and supply of materials to construct one house in Tipolo is **469 work-hours, or 59 days' work**.

For the **construction** of *two-storey row housing* in Paknaan (SMASH) the necessary materials take **451 work-hours per house** (equivalent to 56.5 days' work) to be manufactured, and **173 work-hours per house** (equivalent to 21.5 days' work) to be **supplied** to the site. In **total**, the manufacture and supply of materials to construct a single housing unit in Paknaan is **624 work-hours, or 78 days' work**.

Taking the average, the manufacturing and supply employment required in constructing **one LinkBuild house is 546.5 work-hours per house, or 68.5 days' work** (see Appendix G for full Cebu calculations).

3.1.3 Davao manufacture and supply of housing materials

As before, the materials needed for the construction of a detached house in Davao were ascertained from the BOQs for the Los Amigos site of one-storey units in the Tugbok district. **Manufacture** of the materials has been calculated as **331.6 work-hours per house** (equivalent to 41.5 days' work) and the **supply** of these same materials as taking **194 work-hours per house** (equivalent to 24 days' work). In **total**, the manufacturing and supply employment required for the construction of one house in Davao is **525.5 work-hours per house, or 65.5 days' work** (see Appendix H for full calculations)**.**

> The manufacture and supply of materials needed for the construction of a house in Davao is 65.5 days' work per house.

3.1.4 Comparing work-days per house at each site

Comparing the work-days per house involved in the manufacture and supply of materials across the sites there are some notable differences, which we consider to result from the scale of operations, building techniques and house design. The Nairobi figures are lower than those in Cebu and Davao, which could be because the NACHU houses are built by contractors at a larger scale to a design and method which is similar to other types of housing typically found in Nairobi.

Table 22 – Materials manufacture and supply - summary of employment work-days

City	*Manufacture work-days per house*	*Supply work-days per house*	*Total indirect work-days per house*
Nairobi	37	16	53
Cebu	50	18.5	68.5
Davao	41.5	24	65.5

The building techniques at the Reall-funded sites in Cebu and Davao were similar. The production of ICEB blocks on site are fairly labour intensive compared to cut blocks in Kenya, and it may also be that sweat equity contributes to greater work-hours figures, as more unskilled labourers work on the site.

The difference between Cebu and Davao work-hours is probably the result of different house design. In Davao the core house is a basic one-storey construction with one wooden wall and three ICEB walls. However, in Cebu both house designs are two-storey which adds significantly to the work-hours. Note however that supply work-hours are slightly higher for Davao compared to Cebu. This could be due to less efficient supply chains and infrastructure in Davao.

3.2 Total work-days per house at each site

Combining the construction workers work-days to the manufacturing/supplier work-days gives a total work-days figure per house for each of the different sites (Table 23 below).

Table 23 - Total work-days per house for each city

City	Total **Direct Employment**: work-days per house	Total **Indirect Employment:** work-days per house	**Total construction work-days per house**
Nairobi	211.5 (80%)	53 (20%)	**264.5**
Cebu	158.5 (70%)	68.5 (30%)	**227**
Davao	140.5 (68%)	65.5 (32%)	**206**

On-site labour in Nairobi is quite time-intensive due to the construction techniques used (quarried stonework walls). In Davao this figure is considerably lower because of the simple unit design.

There are a number of conclusions that might be drawn from comparing these data, summarised in Table 24:

Table 24: Percentages of average yearly work-days provided per house

City	Weighted average of work-days per year	**Direct employment**: work-days per house	Percentage of **direct** work-days per year provided per house	**Total** (**direct and indirect**) work-days per house	Percentage of **direct** + **indirect** work-days per year provided per house
Nairobi	209.4	211.5	**101%**	264.5	**126.3%**
Cebu	254.5	158.5	**62.3%**	227	**89.2%**
Davao	254.5	140.5	**55.2%**	206	**80.9%**

*Note: For weighted average of work-days per year, see Table 12; For direct employment work-days per house and total direct and indirect work-days per house, see Tables 11 and 23.

1. The total direct employment provided per house in Nairobi is just over the weighted average of days worked per year for construction workers: 101% of average work-days per year, or just over a year's work.
2. The total direct employment per house in Cebu and Davao is notably lower as a percentage of the weighted average worked per year for construction workers, in Cebu: 62.3%; in Davao: 55.2%, in each case just over a half of a year's work.
3. If we assume that workers in industries and trades associated with indirect employment work a similar number of days per year in their main employment as construction workers, then these percentages increase: 126.3% for Nairobi (over a full year's work); 89.2% for Cebu; and 80.9% for Davao (just under a full year's work).

However, it should be noted that for point 3 above, this is an assumption which is not fully justified by the data (discussed above in section 2.1.3). Whilst determining average days worked per year is relatively straightforward for our direct employment categories, indirect employment constitutes an extremely wide breadth of work types from across the supply chain.

4 Housing beneficiary employment

4.1 Housing beneficiary livelihoods after occupation

4.1.1 Nairobi beneficiary employment

In Nairobi, a total of **68 beneficiary respondents** were interviewed, either the head of household or another adult household member. The survey asked them about their individual employment and income as well as that of **other household members**. The **beneficiary household** is classified as the main beneficiary respondent plus all other household members.

Of the 68 beneficiary respondents, **85% were earning an income**, working in a range of activities, including petty trade, running a home-based tuck shop, selling second hand clothes, construction or other activities, while 15% of beneficiary respondents were not earning (not working, retired, students, or doing unpaid work, e.g. as a housewife) (Table 25).

> The average household earns KSH 34,097 (USD 337.96) per month. 85% of beneficiary respondents were working, and nearly half of these had a second job.

The **average working day** for beneficiary respondents was **9 hours**, the **average working week** was **6 days**, and the **average weeks worked per year** was **48 weeks**. Unlike construction workers, this 54-hour week is above the ILO (2008) suggestion of anything over 48 hours a week being 'excessive' working hours, and above other estimates of what constitutes a 'job' of 24-40 weeks worked per year (Fowler and Markel 2014; ILO-Habitat 1997; Sen and Kessler 2015). We suggest therefore that an average amount of work needed to fulfil a family or individual livelihood is higher than current research suggests.

> On average male beneficiary respondents earn a third more per day (KSH 356 or USD 2.47) more than women.

The **average daily income** of the beneficiary respondents was **KSH 889** (USD 8.77), but significantly higher for men on average (KSH 1,079 or USD 10.69) than for women (KSH 723 or USD 7.17). The **average household** earns **KSH 34,097 per month (USD 337.96)**[5]. The range of household incomes was significant, from KSH 1,200 to 198,000 per month with a median of KSH 27,500 (USD 271.28).

> 59% of other household members are not earning.

The **average household from those surveyed was 2.9**[6] **people**, although this may be an under-estimate as it is possible that not all those surveyed reported on their whole household. Our survey suggests a fairly high dependency rate, as **59% of other household members were not earning** (not working, retired, in education, or working unpaid e.g. as a housewife). The

> 36.8% of beneficiary respondents have secondary employment or income earning activities.

[5] Note that NACHU figures from beneficiary surveys give an average household income of KSH 51,800 for households in Malaa

[6] Note that NACHU figures suggest that the average household size for the Malaa project is 4.8 people.

average earnings for other household members recorded in the survey was **KSH 856** (USD 8.48) per day, which is similar to the beneficiary respondents.

An important factor in assessing employment security is the number of second jobs. Over a third (36.8%) of the 55 main beneficiary respondents had a second occupation, suggesting irregular or uncertain income from their main employment (Table 25).

Table 25 - Main and secondary employment types of beneficiary respondents

Occupation	Main occupation		Other occupation	
	Percentage	Frequency	Percentage	Frequency
Unemployed/retired	8.8	6	-	-
Student	1.5	1	-	-
Housewife	4.4	3	-	-
Petty trade – hawker	4.4	3	3.6	2
Petty trade – tuck shop	13.3	9	3.6	2
Retail (formal)	4.4	3	3.6	2
Personal services	2.9	2	1.8	1
Tailoring	1.5	1	1.8	1
Clothes sales (new)	1.5	1	0	0
Clothes sales (second-hand)	7.4	5	1.8	1
Urban agriculture	5.9	4	3.6	2
Farm labour	1.5	1	1.8	1
Admin/Government	2.9	2	1.8	1
Education	2.9	2	0	0
Cooking food	2.9	2	0	0
Domestic work/ childcare	1.5	1	3.6	2
Construction – unskilled	7.4	5	1.8	1
Construction – skilled	5.9	4	5.5	3
Construction – supplier	2.9	2	0	0
Manufacture – petty	2.9	2	1.8	1
Manufacture – large-scale	1.5	1	0	0
Driver	2.9	2	1.8	1
Other	8.8	6	7.3	4
Total	100	68	100	25

In addition to secondary employment, **31.3% of beneficiary respondents work at home**, either cooking food to sell, small-scale manufacturing of products (such as shoes, detergents and candles), or day care. These types of work tended to be done by female householders, so our evidence suggests NACHU properties may provide the means to work and earn an income. Our research elsewhere suggests that home-based work increases as neighbourhoods consolidate (Brown et al. 2014).

79.4% of beneficiary households do some form of urban agriculture in their new plots.

Significantly, **79.4% of beneficiary households undertook urban agriculture** in their new plots, of these 20.4% kept livestock (mainly chickens with one beneficiary keeping goats and another a couple of cattle), 24.1% grew crops (including spinach, *sukuma wiki* greens (kale), aubergines, onions, beans, maize, sweet potatoes, pumpkin, tomatoes, watermelon and

bananas), and 55.5% did both. For all households, these agricultural activities are unlikely to have taken place in their previous residence (e.g. highly dense informal settlements, such as Kibera). Urban agriculture thus represents a new opportunity for households to supplement their food supply. For example, one respondent stated: "*We are also not buying vegetables and eggs because we grow them here*". Some were able to sell the surplus for cash. **Urban agriculture is not taken into account during the construction process adopted by NACHU, for example through topsoil conservation.** This could easily be done, by setting topsoil aside before construction begins, and returning to gardens in the completed development.

This evidence suggests that household employment and income in Nairobi is a complex series of income and subsistence streams, which together represent beneficiary household's livelihood portfolio. In the context of East Africa this is hardly surprising, however, it has important implications for measuring employment and income change in relation to moving to a more secure, owner-occupied dwelling. Without baseline data on respondent's employment and livelihood portfolios we can only rely on self-reporting to suggest whether there has been significant change for respondents.

Nairobi – livelihood change

Some 79.3% of beneficiary households have witnessed a change in household income since moving to the area, with **33.3% increasing their income** and **46% reporting a decrease.** On average, they had lived in their new property for 1 year and 5 months.

46% of beneficiary households have seen their income decrease since moving to the area.

Of beneficiary respondents, 23 (35.4%) had changed occupation since moving to the new residence, 11 had seen their income increase while 10 had seen it decrease, and their occupation trajectories are given in Table 26 below. However, for many beneficiary respondents their employment was relatively stable, and the **average time spent in current main employment** was **10.5 years**, with a range of between 5 months and 38 years.

Table 26 - Occupation trajectories of beneficiary respondents reporting a change in employment

No.	*Gender*	*Current occupation*	*Previous occupation*	*Reason for change*	*Interviewee income difference*	*Household income difference*
1	Female	Urban agriculture (livestock & crops)	Urban agriculture (only crops)	Space to rear chickens	Increase	Increase
2	Female	Social worker and mutumba	Only social worker	Opportunity to sell clothes in neighbourhood whilst pregnant	Increase	Increase
3	Female	M-Pesa shop	Teacher	Closer place of work	Increase	Increase
4	Male	Mason	Collecting and selling waste paper	Previous job didn't cover costs of basic needs	Increase	Increase
5	Male	Driver	Marketing for wife's dress-making shop	Easier to be self-employed when landlord not pushing for rent	Increase	Increase
6	Male	Driver and sells water	Actor	Acting wasn't really paying	Increase	Increase

7	Male	Security officer	Fundi	Wanted to work in new area	Increase	Decrease
8	Male	Fundi and Garbage collector	Only a fundi	Opportunity to do garage collection for NACHU project	Increase	Decrease
9	Female	Cooking and selling food	Selling snacks	Workers in area dictate what she sells	Decrease	Increase
10	Female	Farmer	Sold newspapers, operated hotel and salon	Low income, lack of opportunities when construction finished	Decrease	Increase
11	Female	Retired	Teacher, sold fish	Retired when moved, cannot sell fish in new location	Decrease	Increase
12	Male	Unskilled construction labourer	Looked after horses	Move back to Nairobi from Dubai	Decrease	Increase
13	Female	Retail shop and salon	Selling groceries	No shop or salon here when she moved, so opportunity	-	Increase
14	Female	Only teacher	Teacher and selling clothes	Stopped selling clothes from home	Decrease	No change
15	Female	Unemployed	Fruit vendor	Son asked her to live in house so he didn't lose it	Decrease	Decrease
16	Female	Housewife	Sold snacks from home	No longer selling snacks	Decrease	Decrease
17	Female	Casual labourer and hawker	Tailoring business	Transport too expense to continue business	Decrease	Decrease
18	Female	Urban agriculture	Shopkeeper	Too far and expense to get to former workplace	Decrease	Decrease
19	Male	Construction materials supplier	Driver	Pursuing self-employment	Decrease	Decrease
20	Male	Supplies newspapers, farmer	Driver	Opportunities in new location	Decrease	Decrease
21	Female	Casual labourer	Hawker	Poor demand, low population compared to slum	-	Decrease
22	Female	Greengrocer	Urban agriculture (crops)	Started job here, transport costs.	-	Decrease
23	Female	Retired	Assistant nurse	Retired	No change	-

Thus, for both beneficiary respondents and their households, **the period in which the move to a new house has occurred, has also been aligned with mixed effects on income**. It may take several years for their new neighbourhoods to consolidate and income-earning opportunities to emerge, particularly for home-based and service work. Some manage to find opportunities quite quickly. For example, in Semba Moto, which had been occupied about 2 years, two households had already opened small 'tuck shops' in front of their homes. In an adjacent site to Malaa, one lady was cooking lunches for the construction workers.

Although Table 26 provides a summary of individual and household income change, it does not provide the detailed analysis of, for each family, why these changes have occurred. Note that these data do not imply causality between moving home and the overall changes in income – more detailed longitudinal livelihood studies would be required to provide stronger causal links. However, the 'reasons for change' column, which summarises more detailed beneficiary responses, does provide some indication. For example, respondents 8 and 22 had both started a new occupation after moving to their new home, however, for both, their overall household income had decreased due to transport costs for the family. Some respondents did not explain why their overall household income had not changed in line with individual income (e.g. respondents 7, 9-12), but we hypothesise that these changes could be due to the issues discussed such as increased costs, mortgage repayments and transport costs. For others, where individual income was reported to decrease and household income increased, this may be due to increased income from other household members. Overall, the data, whilst only indicative, suggest the sensitivity of household and individual incomes to changes such as moving home and potential increases in associated costs, but also the ingenuity of many households in taking opportunities to form new livelihoods in their new locality.

> On average mortgage or rent payments are KSH 5,212 (USD 52.12) more than their previous property.

Many beneficiaries have seen changes in their outgoings as a result of their move to new housing. On average beneficiary households are paying considerably more per month in mortgage or loan repayments on their new property than they were in rent on their previous property. The **average current monthly repayment** of all households is **KSH 12,037 (USD 119.31)[7],** when the average **previous monthly payments** of all households was **KSH 6,825 (USD 67.65)**, an **average increase of KSH 5,212 (USD 52.12)** a month for each beneficiary household. The average monthly repayment is therefore **35.3% of the reported average monthly household income**.

Beneficiaries have also been able to access credit or loans since moving property: **46.7% have accessed credit or loans**, including the NACHU women's fund and NACHU business loans. These loans were mostly obtained to establish or grow their businesses, house extensions, or for medical and school fees. Several mentioned that they valued NACHU being flexible with loans and loan repayments. Although beneficiaries were not directly asked where they had obtained their loans, a number offered this information, and the sources of these loans are listed in Table 27 below. Most had borrowed from banks (e.g. Equity Bank) and microfinance organisations (e.g. Country Capital).

[7] Note that this is significantly less than NACHU's reported monthly payments for the Malaa housing project – which are KSH 23,000, 29,000 or 37,000 depending on the house type. It may be that households surveyed are typically under-reporting their loans.

Table 27: Loan sources of beneficiary respondents

Loan Source	Number of Respondents
Kenya Woman micro-finance bank	2
Equity Bank	2
Nachu Women's fund	2
Nachu business loans	2
County Capital (microfinance)	2
Group that has its own SACCO (not housing project, different)	1
Branch mobile money app	1
CIC bank	1
Bank loan	1
Letshego	1
Women's group	1
Musoni Microfinance	1
A friend	1

Some **34.4% of beneficiary respondents had made some use of employment creation and training programmes**, which suggests that beneficiaries had been taking positive steps (and some opportunities provided by NACHU) to improve their employment status. Table 28 describes the training types taken by respondents, however respondents did not specify which of these were provided by NACHU.

Table 28: Training types undertaken by respondents.

Training Type	Number of Respondents
Budgeting/accounting/ personal finance	6
Waste management/ sanitation/ water	3
HIV and aids awareness	3
Community management/ policies	3
Farming	3
Leadership	2
Business management	2
Afforestation	1
Corporate governance	1
Strategic planning	1
Plumbing	1

4.1.2 Cebu beneficiary employment

A total of **44 beneficiary respondents** were interviewed. Again, the survey asked them about their individual employment and income as well as that of other household members. For the Cebu data discussed below, we have merged data from the three sample sites: LT-HAI, SMASH and MMV-HAI.

84% of beneficiary respondents were working, and nearly a quarter of these had a second job; they worked 62 hours on average per week.

Of the 44 beneficiary respondents, **84% were earning**, predominantly working in petty trade, or running a home-based *sari-sari* shop, while 13% of beneficiary respondents were not earning (not working, retired, students, or in unpaid work, e.g. as a housewife – Table 29).

The average household earns PHP 21,782 (USD 403.56) per month.

The **average working day** for beneficiary respondents was **9.9 hours**, the **average working week** was **6.25 days**, and the **average weeks worked per year** was **47.5 weeks**, which equates to a 62-hour week. The **average daily pay** of the beneficiary respondent was **PHP 751** (USD 14.33), only slightly higher on average for men (PHP 860 or USD 16.40) than for women (PHP 724 or USD 13.51). The reported **average household** earnings were **PHP 21,782 per month (USD 403.56)**[8]. The range of household incomes was significant, from PHP 3,000 to 59,000 per month.

The **average household from those surveyed was 3.0 people**. Our survey suggests that **24.1% of all other household members are not earning** (not working, retired, in education, or working unpaid e.g. as a housewife). The average earnings for other household members recorded in the survey is **PHP 516 per day** (USD 9.84).

Table 29 - Main and secondary occupation types of beneficiary respondents

Occupation	*Main occupation*		*Other occupation*	
	Percentage	*Frequency*	*Percentage*	*Frequency*
Unemployed/retired	6.8	3	-	-
Student	2.3	1	-	-
Housewife	6.8	3	-	-
Petty trade – hawker	15.9	7	5.4	2
Petty trade, sari sari shop	29.5	13	8.1	3
Retail	4.5	2	0	0
Personal services	2.3	1	0	0
Admin/Government	4.5	2	2.7	1
Education	4.5	2	0	0
Cooking food	2.3	1	5.4	2
Domestic work/childcare	4.5	2	0	0
Other	15.9	7	2.7	1
Total	100	44	100	9

47.4% of beneficiary respondents work at home.

An important factor in assessing employment security is the number of second jobs. Just 9 out of the 44 main beneficiaries had a second occupation (20.5%), suggesting more livelihood stability than in Nairobi. In addition to

[8] This figure is similar to LinkBuild's estimate of average beneficiary household income of PHP 20,000.

secondary employment, **47.4% of beneficiary respondents worked at home**, mainly in *sari-sari* shops. One respondent described how enjoyable it was to work with two neighbours in a *sari-sari* shop, suggesting that home-based work could be cooperative and provide opportunities for socialisation in neighbourhoods.

50% of beneficiary households undertook urban agriculture in their new plots. The large majority (81.8%) grow produce including papaya, squash, okra, horse radish, spinach, onion, lemongrass, tomatoes, aubergine and herbs. Chickens were the only livestock kept. In Cebu new plots were considerably smaller than NACHU sites in Nairobi (and relocation sites in Davao), either because new housing was constructed in-situ in existing informal settlements or on reclaimed land with a dense layout. This limited the opportunities for urban agriculture and livestock keeping, although some residents were still able to grow vegetables on their small plots.

Half of beneficiary households do some form of urban agriculture in their new plots.

Cebu/Mandaue – livelihood change

Some 79.2% of beneficiary households reported a change in household income since moving to the area, with **54.2% increasing their income** and **25% reporting a decrease.** On average, households had been in their new property for 1 year and 2 months. The new area was variously described by beneficiary respondents as private, safe, and "more conducive to raising a young family".

54.2% of beneficiary households have seen their income increase since moving to the area.

Of beneficiary respondents, 37.9% had changed occupation since moving to the new dwelling. Of those 11 beneficiaries who reported household income changes, 4 have seen their household income increase, while 3 have seen it decrease. The employment trajectories of the 11 beneficiaries who had changed occupation are given in Table 30.

Beneficiary respondents had on **average spent 7.5 years in their current employment**, with a range of between zero and 30 years. In addition to this, **64.1% of beneficiary respondents were self-employed or owned their business,** and another significant proportion (20.5%) were on permanent contracts.

64.1% of main beneficiaries are self-employed or have their own business.

Many beneficiary households noticed changes in their outgoings as a result of moving to a new house. Many are also now paying mortgages and loans, when previously they had lived in informal settlements where they are likely to either have been structure owners themselves and therefore not paying rent, or paying rent which is likely to have been lower than their current mortgage. The **average current mortgage repayment** amongst all beneficiary households is **PHP 2,045 per month (USD 39)**[9]. This means that mortgage repayment equates to roughly 9.4% of household income.

[9] LinkBuild have previously reported that the monthly cost for all clients is PHP 4,347 per month. This figure may not account for sweat equity contributed to the project. It may also be that some beneficiaries are under-reporting their loans.

Table 30 - Occupation trajectories of beneficiary respondents reporting a change in occupation

No.	*Gender*	*Current occupation*	*Previous occupation*	*Reason for change*	*Interviewee income difference*	*Household income difference*
1	Female	Tubig PAG-ASA collector and sari-sari store owner	Street food vendor	To give community service and enjoyment	Increase	Increase
2	Female	Street sweeper and Avon seller	Bottle washer	Stopped previous job after goiter operation	Increase	Increase
3	Male	Sari-sari store owner	Bottle washer	To take care of grandson	Increase	-
4	Male	Public school teacher	Teacher at different public school	Moved area	Increase	-
5	Female	Sari-sari store owner	Health worker	Retired	Decrease	Increase
6	Female	Sells filtered water	Staff at Dunkin Donuts in a mall	To take care of children	Decrease	Increase
7	Female	Housewife	Fish seller	-	Decrease	No change
8	Female	Sells mineral water	Helped husband in tombstone engraving shop	Taking care of grandchild	Decrease	No change
9	Female	Sari-sari store owner	Sold coconut wine	Evicted by city from informal stall	Decrease	Decrease
10	Female	Housewife	Baby sitter	-	Decrease	Decrease
11	Female	Selling cold water	Sari-sari store owner	As children can support her she is doing more relaxed work	-	Decrease

Beneficiary households have been able to access credit or loans since moving property: just **43.9% have accessed credit or loans.** Beneficiaries were not asked who loans were taken from and none volunteered this information. However, **over half (55.8%) had contributed sweat equity** at the LinkBuild construction sites. Some **32.5% of beneficiary respondents had made some use of employment creation and training programmes**. A number of respondents described how sweat equity was a way "to know our neighbours more and build good relationships with them", and to gain a sense of accomplishment.

> Just over half of the beneficiary households contributed sweat equity at the LinkBuild construction sites.

Table 31: Training types undertaken by respondents.

Training Type	Number of Respondents
ICEB production (on-site)	4
Procurement of construction materials	3
Model-house making/house design	3
Livelihood	2
Finance/accounting	2
Participatory planning (PACSII)	2
Bayanihan Concept (PACSII	2
AIDs (Cebu Doctors Unit)	1
Savings	1

4.1.3 Davao beneficiary employment

A total of **24 beneficiary respondents** were interviewed. Again, the survey asked them about their individual employment and income as well as that of other household members.

75% of beneficiary respondents were working, and nearly half of these (44%) had a second job.

Of the 24 beneficiary respondents, **75% were earning**, predominantly in petty trade, running a home-based *sari-sari* shop, or administration, while 16% of beneficiary respondents were not earning (not working, retired, students, or in unpaid work, e.g. as a housewife) (Table 32).

The **average working day** for beneficiary respondents was **9.5 hours**, the **average working week** was **5.25 days**, and the **average weeks worked per year** was **47 weeks,** which equates to a 50-hour week. The reported **average daily pay** of the beneficiary respondent was **PHP 567** (USD 10.78), and only slightly higher for men on average (PHP 595 or USD 11.33) than for women (PHP 556 or USD 10.59). The reported **average beneficiary household** earnings were **PHP 27,702 per month (USD 527.58)**[10]. The range of monthly household incomes was significant, from PHP 9,200 to 78,300 (USD 177.20 to 1,508.10).

The average beneficiary household earns PHP 27,702 (USD 527.58) per month.

The **average household from those surveyed was 1.4 people**[11], although this seems an under-estimate as not all those surveyed reported on their whole household. Our survey suggests that **20.1% of all other household members are not earning** (not working, retired, in education or working as a housewife) and are therefore dependents. The average daily earnings for other household members recorded in the survey is **PHP 593** (USD 11.29), which is very similar to beneficiary respondent's daily earnings of PHP 567 (USD 10.78).

37% of beneficiary respondents work at home.

A third (33%) of beneficiary respondents have secondary occupations in addition to their main employment. Main employment and secondary employment types can be seen in Table 32 below. **36.8% of beneficiary respondents work at home**, in *sari-sari* stores, e.g. fixing things or

[10] LinkBuild data reports that beneficiary households earn PHP 18,000 on average – although these figures may be relative old compared to this project data.
[11] LinkBuild data reports an average of three people per household.

selling products online. A few beneficiaries started businesses when they realised that some services were not yet available in the area (i.e. an internet café).

Beneficiary respondents had on **average spent 8 years in their current employment**, with a range of between 1 month and 30 years. In addition to this, **61.1% of beneficiary respondents were self-employed or owned their business,** and another significant proportion (22.2%) were on permanent contracts.

Table 32 - Main and secondary occupation types of beneficiary respondents

Occupation	*Main occupation*		*Other occupation*	
	Percentage	*Frequency*	*Percentage*	*Frequency*
Unemployed/retired	12.5	3	-	-
Housewife	12.5	3	-	-
Petty trade – hawker	8.3	2	5	1
Petty trade – sari-sari	16.7	4	5	1
Retail	8.3	2	0	0
Farming	4.2	1	10	2
Admin/Government	12.5	3	0	0
Education	4.2	1	0	0
Driver	8.3	2	0	0
Other	12.5	3	20	4
Total	100	24	100	8

37.5% of beneficiary households undertook urban agriculture on their new plots, and of these only one kept livestock as this is prohibited across most sites. The 88.9% who grew crops yielded a range of produce including horseradish (*moringa*), aubergine, sweet potatoes (*camote*), lemongrass and chillies. Many of the beneficiaries complained the plots were too small to grow anything, although their plots were larger than beneficiaries in Cebu. Some marginal land near the site had been used by residents from different housing projects for urban agriculture, and for keeping birds for cock-fighting.

Some 62.5% of beneficiary households reported a change in their household income since moving to the area, with **37.5% increasing their income** and **25% reporting a decrease.** On average, households had been in their new property for 1 year and 10 months.

54.5% of beneficiary respondents had changed occupation since moving to their new residence.

54.5% of beneficiary respondents had changed occupation since moving to the new residence. Of those 12 beneficiaries, 5 have seen their household income increase, while 6 have seen it decrease. The employment trajectories of the 12 beneficiary respondents who had changed occupation are given in Table 33.

On average mortgage repayments equate to roughly 9% of household income.

Many beneficiary households also noticed changes in their outgoings as a result of moving to a new house. On average beneficiaries paid more per month in loan repayments on their new property than they were in rent on their previous property. The **average current mortgage repayment** reported by beneficiary households is **PHP 2,529 per month** (USD 48.16)[12], when the

[12] Linkbuild reports this figure to be PHP 3,139 – again it may be that some households are under-reporting their loans.

average **previous mortgage or rent payment** of all beneficiary households was **PHP 1,633 per month** (USD 31.10). Therefore, there has been **an average increase of PHP 896** (USD 16.95) each month on the mortgage repayment amongst the beneficiaries. This means that on average loan repayments are roughly 9% of household income.

Table 33 - Occupation trajectories of beneficiary respondents reporting a change in employment

No.	*Gender*	*Current occupation*	*Previous occupation*	*Reason for change*	*Individual income difference*	*Household income difference*
1	Female	Sari-sari store owner	Unemployed	She didn't used to work	Increase	Increase
2	Female	Sari-sari store and internet café owner	Sari-sari store owner	Opened internet café because elementary and high schools nearby	Increase	Increase
3	Male	Pedicab driver, growing and selling bonsai trees	Worked in a junkshop	Former workplace is too far away	Increase	Increase
4	Female	Hawker and sari-sari store owner	Sales at biscuit factory	Left sales job when fell pregnant. Different interests since	Decrease	Increase
5	Male	Unemployed, selling motor parts	Banana supplies company	He resigned after a disagreement at work	Decrease	Increase
6	Female	Online retail	Liaison Officer in Neuro Testing Centre	Internal problem with company data/documents	Decrease	No change
7	Female	Sari-sari store owner	Carenderia (small eatery) owner	Carenderia not feasible in new area. Not enough people nearby, wouldn't get enough sales	Decrease	Decrease
8	Female	Unemployed	Carenderia and sari-sari store owner	Had to stop working after having a stroke	Decrease	Decrease
9	Female	Housewife	Pedicab operator, hawker	Had to sell pedicabs because local gov. banned them in Davao City. Undergoing treatment for diabetes and hypertension	Decrease	Decrease
10	Female	Direct sales of cosmetics	Sales staff in private company and Jeepney operator	Had major operation so had to stop work. Sold jeepney as distance too far	Decrease	Decrease
11	Male	Trailer truck driver	Trailer truck driver in Saudi Arabia	Working conditions abroad were very unstable	Decrease	Decrease
12	Male	House parent	Security guard at a bank	Wife has moved abroad to work as a domestic helper, so he is now a full-time dad	Decrease	Decrease

As with our respondents in Nairobi, the changes in individual and household income is not always consistent. For example, respondent 4 left her occupation as a sales assistant, but her husband is a tricycle driver, but no reason was given as to why their household income had increased. For respondent 5, although his income had decreased, his wife has changed from being a call centre agent to a teacher, which is better paid, hence the increase in household income. For respondent 9, her loss of income was tied to her loss of employment due to change in local government policy. Although the data does not establish causal links between income changes and moving to a new house, the data demonstrates the wide variety of household income sources and the precarity of livelihoods, which may have an impact on beneficiaries' ability to afford continued mortgage repayments, or other associated costs with moving.

Beneficiary households have been able to access credit or loans since moving property: **72.7% have accessed credit or loans. Just over half (56.5%) had contributed sweat equity** at the LinkBuild construction sites, averaging a contribution worth PHP 33,000 (USD 628.49).

Table 34: Loan sources of beneficiary respondents

Loan Source	Number of Respondents
COREACS	8
ASA Microfinance	1
Card Bank	1
Social Security System	1
Sumifru	1

Some **21.7% of beneficiary respondents had made some use of employment creation and training programmes**. Note that all programmes listed here were provided by HPFPI and PACSII.

Table 35: Training types undertaken by respondents.

Training Type (all provided by HPFPI and PACSII)	Number of Respondents
Organisational training	3
Leadership	1
Savings Mobilisation Training	1
Savings	1

4.2 Housing beneficiaries: International comparison summary

The following tables present an international comparison of housing beneficiary respondents surveyed in our research.

Table 36: Beneficiary respondent occupation profile

	% employed	*% secondary employment*	*Av. daily pay (USD)*	*Av. years in current occupation*
Nairobi, Kenya	82.4	44.6	8.89	10.5
Cebu, Philippines	84.1	24.3	14.33	7.5
Davao, Philippines	75	40	10.77	8

The housing beneficiary respondents across the two country- and three city- contexts have reasonably similar profiles in terms of the main beneficiary respondents' occupation. Notable are the lower levels of secondary employment in Cebu, alongside notably higher average daily pay compared to the other two contexts.

Table 37: Household profile

	% other household members employed	*Av. household income (USD)*	*% urban agriculture*	*% undertaken sweat equity*
Nairobi, Kenya	61	340.94	79.4	-
Cebu, Philippines	75.9	403.56	50	55.8
Davao, Philippines	79.1	524.04	37.5	56.5

Both cities in the Philippines had higher rates of employment amongst other household members, and significantly higher average household earnings that in Nairobi. Urban agriculture was less prevalent in the Philippines, possibly because of small plot sizes and in-situ upgrading in Cebu, and the ban on of raising animals in Davao sites.

Table 38: Reported changes in beneficiary respondents/households

	Nairobi, Kenya	*Cebu, Philippines*	*Davao, Philippines*
*% changed **occupation***	35.4	37.9	54.5
*% not changed **occupation***	64.6	62.1	45.5
*% **individual income** increase*	47.8	44.4	42
*% **individual income** decrease*	33.3	48	33.3
*% increase **household income***	33.3	54.2	37.5
*% decrease **household income***	46	25	25
*% increase in **home working***	9.9	6.5	10.1
*% increased **household costs***	72.6	90.3	75
*% decreased **household costs***	14.5	0	8.3
*Av. increase monthly **loan repayments** (USD)*	52.12	36.64	16.95

Three main occupation changes for beneficiaries of Reall projects are evident. First, across all the case-study cities a relatively **high proportion of beneficiary respondents had changed their employment** – particularly in Davao, with a **small increase in home-based work** evident in each context. Second, just under half of beneficiary households in each case reported an **increase in individual income**. However, it was notable that Nairobi and Davao fewer respondents reported an increase in household income, whereas in Cebu more reported an increase in household income compared to increases in individual income. In each city **high proportions of beneficiary respondents reported increases in household costs**. This could be associated with a range of factors, but could include higher mortgage repayments than previous rents, and other costs associated with moving home, such as higher commuting costs. Average increases in loan payments, versus previous rent, was much higher in Nairobi, which may reflect the likely higher number of renters (rather than structure owners) amongst the pool of beneficiaries.

4.3 Wider benefits

Beneficiary respondents also added comments, suggesting that **quality of life** was also an important benefit of moving to new housing.

Advantages of moving to new location: Some of those who had moved away from previous sites of occupation noted that their new location was better because it was considerably **less crowded** than where they previously lived (e.g. in Kibera, Nairobi). They felt **more secure** in their new properties, in part because they felt other residents would look out for them and they knew everyone in the new housing area. Others felt that the **environment was healthier and cleaner**, with more 'fresh air' and less risk of hazards like flooding and fire. Some had noticed **improved health** for themselves and for

their children compared to living in the city. Some felt that they had **more free time** and were able to **relax** better, or could feel 'at peace' or 'less stressed' in their new home. One person commented on the **lack of noise** compared to the city. For example, one respondent from Nairobi commented: '*There is a lot of playground for the children to play in. In Kibera the environment was not safe for the children to play*'.

Consolidation over time: Many respondents had improved their property and gardens, many using it for **urban agriculture** or to create small **gardens**. However, respondents' comments and our observations suggested that **soils were often poor** on the newly constructed sites, in part because **topsoil was not removed and replaced during the building process,** and, in Davao, housing federations put restrictions in place regarding the raising livestock. Many were **investing in extending and improving** the property and felt that eventual ownership of the property would be a long-term benefit for them. One respondent in Davao described their Reall property as their 'dream house'.

Disadvantages of moving to new location: A smaller number of respondents felt the experience of moving was **negative**. They had lost friends and found the area '**lonely**', especially if they had moved in earlier than others. Some suggested that they did not meet people '*in the way we used to*', or that they were now further from their family. This was compounded by the relative **physical isolation** of some of the new housing developments compared to the previous homes of many respondents close to central Nairobi, Cebu/Mandaue and Davao, although this was not a problem for those who had housing provided 'on-site' in the Cebu/Mandaue. This is linked to issues of community, transport and time taken to move into new homes, discussed in section 4.4. below. There were mixed **concerns about schools and healthcare**: many felt that both were **further away**, or of a **lower standard** than in the city, and increased transport costs to maintain the same quality of living were often cited.

4.4 Suburban relocation, commuting and delayed occupation

A key factor for all of the projects in Kenya, and for the off-site development projects in Cebu and Davao, is that housing is located a considerable distance from respondents' previous homes which were often in central city locations. In all cases this was largely due to lack of affordable housing land close to the city centre, so that relocation sites were often peri-urban locations where land was cheaper. In Cebu/Mandaue some projects included in-situ redevelopment where land was donated by the city authorities. In Nairobi, and in the newer relocation sites in Cebu and Davao, beneficiaries had to move significant distances from their previous homes.

4.4.1 Transport and travel time

After or during relocation transport to the city became an important factor for respondents due to the increased distance to their former place of work. The transport and travel time data for each city are summarised below.

Nairobi:

All of the relocation sites in Nairobi were a significant distance from respondent's former homes in the city, e.g. Kibera. Most of the beneficiary respondents travelled by public transport (72.2%) rather than private vehicles or a combination of the two. The majority (56.5%) travelled for over 40 minutes.

Tables 39 and 40: Transport type and travel time for Nairobi beneficiary respondents.

Transport type	*Percentage*	*Frequency*
Private	13.9	5
Public	72.2	26
Both	13.9	5
Total	100	36

Travel time	*Percentage*	*Frequency*
0-10 minutes	13	3
11-20 minutes	17.4	4
21-40 minutes	13	3
41-60 minutes	26.1	6
Over an hour	30.4	7
Total	100	23

Cebu:

The majority of the beneficiary respondents travelled by public transport (50%) rather than private vehicles (38.1%) or a combination of the two (11.9%). Several respondents had quite long commuting times. More than a fifth (21.4%) travelled for over an hour.

Tables 41 and 42: Transport type and travel time for Cebu beneficiary respondents.

Transport type	*Percentage*	*Frequency*
Private	38.1	16
Public	50	21
Both	11.9	5
Total	100	42

Travel time	*Percentage*	*Frequency*
0-10 minutes	7.1	2
11-20 minutes	17.9	5
21-40 minutes	21.4	6
41-60 minutes	32.1	9
Over an hour	21.4	6
Total	100	28

Davao:

The majority of beneficiary respondents travelled by private cars or motorbikes (54.2%) rather than public transport (33.3%) or a combination of the two (12.5%). Long commuting times were common and, many beneficiary respondents (40%) travelled for over an hour.

Tables 43 and 44: Transport type and travel time for Davao beneficiary respondents.

Transport type	*Percentage*	*Frequency*
Private	54.2	13
Public	33.3	8
Both	12.5	3
Total	100	24

Travel time	*Percentage*	*Frequency*
0-10 minutes	20	3
11-20 minutes	0	0
21-40 minutes	26.7	4
41-60 minutes	13.3	2
Over an hour	40	6
Total	100	15

Taken together, these data demonstrate that the majority of respondents in Kenya and the Philippines have considerable commutes from their new homes, normally over 40 minutes, typically by public transport. This seems logical given the suburban and out of city location of many of the new housing

developments. Although we do not have comparable for respondents' commuting time before moving into their new homes, given that most previously lived in central city locations, it seems likely that many are now commuting longer distances than previously, and may be incurring additional expenditure on public transport, or using a private vehicle.

4.4.2 Time taken to move in

It is likely that, for the majority of beneficiary respondents, the considerable distance of new homes from their old dwelling, as well as additional factors (such as the desire for some to improve and extend their new dwelling before moving in), often means that there is a delay between home ownership and full occupation. The data from each city is summarised below:

Nairobi: It took beneficiary households up to **five years** to move into their properties, although some moved in **immediately**. The average household had to wait **1 year 5 months to move in**. Interviews with beneficiaries suggested that long delays were often because many chose to work on their house, including building significant extensions, in order to be able to fit all of their family into the new home. The range of housing provided by NACHU is considerable. Some of the 'core housing' units are very small (a wet room and one living room), whilst other properties are larger. Some properties are set on large plots, and we observed very large extensions being constructed on some of these. On some NACHU housing sites there were delays in water and electricity connections being installed, and one respondent commented that they had to wait two years to move in because of these delays to basic services.

Cebu: It took beneficiary households up to **five years** to move into their properties, although some moved in **immediately**. The average household had to wait **1 year and 2 months to move in.** In Cebu most respondents did not specify why there had been such a long delay, however some respondents suggested that the target date for construction completion was not met, and a number consequently lived on-site in temporary accommodation for some time before their property was completed.

Davao: It took beneficiary households up to **five years** to move into their properties, although some moved in **within a month**. The average household had to wait **1 year and 10 months** to move in. In Davao a number of beneficiaries reported that there was some gap in time between the housing unit being 'awarded' to them, and being made habitable, although they did not give details. Others were more specific and stated that they wanted to renovate their home before moving in. As in Nairobi, some of the new houses in Davao were built on large plots, and we observed large and significant extensions being built to some houses.

This evidence suggests a number of important components of the home relocation process for beneficiaries. Many face delays moving into their home, some because of delays in the build or services installation, but many because they wish to extend or improve their home before occupation. Certainly, in Nairobi, some were purchasing housing units which were too small for their family, on the basis that they would extend the property (either at one time or incrementally) making use of the large plot. This may also imply that beneficiaries can face a period where they are both renting in their previous location and paying their mortgage or loan on the new property. It may be that delays in moving were also tied to the longer commuting distances to the city, and there are potential implications of this on beneficiaries' current livelihoods.

5 Conclusions & Recommendations

5.1 Report Conclusions

It is clear from this research that Reall's innovative approach to affordable home-building, through the CLIFF partners, has significant employment impacts. These impacts have been demonstrated in Kenya and the Philippines and are likely to be replicated by other Reall partners. Thus, Reall's work with partners is delivering far more than a simple housing unit, it is supporting a package of improved living environments and livelihoods for many people.

Reall should thus take appropriate steps to monitor, promote and celebrate this activity, and to broaden the definition of affordable homes delivery to include its wider social development and livelihoods impacts.

We have developed a three-way classification system for measuring and reporting on the employment impacts of affordable home-building:

a. **Direct** employment during construction;
b. **Indirect** employment during construction from **manufacture** and **supply** of materials in-country, and;
c. **Housing beneficiary** employment before and after occupation.

There are however likely to be **other long-term employment impacts** than we have been unable to capture in this short research project. These include:

- Longitudinal livelihood changes for housing beneficiaries;
- Local service sector employment during and after construction – particularly relevant in the 'new suburbs' and peri-urban locations where housing is being constructed.

5.1.1 Measuring employment impacts of low-cost housing development

The construction industry has an important role to play in providing employment for the urban poor, and existing research shows that there should be investment in sustainable and good quality employment in construction. One of the questions donors sometimes ask is how much employment is produced in terms of 'jobs' per unit. The concept of what a 'job' is in the Kenyan and Philippine contexts was therefore explored during the research.

However, as evident from this – and many other studies – defining a 'job' in these contexts is complex, as those working informally, and indeed formally, often construct their livelihoods from multiple sources of income. This is also true for construction workers, as we detail in the evidence presented. Even if construction workers are primarily working in construction, the tendency for them to be employed in daily or weekly work, means that any work generated from a construction site is difficult to define as a 'job' in a conventional sense, and to do so may be misleading.

Instead we propose a measure of 'work-days per unit', defined as direct and indirect (in-country) employment generated by low-cost housing development.

5.1.2 Measuring work-days per unit

This report has provided data for the work-days generated per unit for both direct and indirect employment. The table below summarises our findings:

Table 45: Percentages of average yearly work-days provided per house

City	Weighted average of work-days per year	**Direct employment**: work-days per house	Percentage of **direct** work-days per year provided per house	**Total** (**direct and indirect**) work-days per house	Percentage of **direct** & **indirect** work-days per year provided per hourse
Nairobi	209.4	211.5	**101%**	264.5	**126.3%**
Cebu	254.5	158.5	**62.3%**	227	**89.2%**
Davao	254.5	140.5	**55.2%**	206	**80.9%**

*Note: For weighted average of work-days per year, see Table 12; For direct employment work-days per house and total direct and indirect work-days per house, see Tables 11 and 23.

It is notable that housing in Nairobi provides more work-days per unit than housing in the Philippines, which may indicate that construction processes are more labour-intensive in Kenya. The housing units in the Philippines generate less work-days per unit overall, but typically construction workers also work more days per year. Our findings indicate the **importance of using contextual data** for establishing work-days per unit, rather than relying on global multipliers.

5.1.2 Comparisons with the Decent Work Agenda

Our data on construction workers has sought to make comparisons against some of the components of the ILO Decent Work Agenda.

- *Living wage:* In Nairobi, unskilled workers are making over minimum wage per day, but when these earnings are adjusted based on days per year typically worked, we find that their monthly income falls below minimum wage. Skilled workers still make above minimum wage even with this adjustment. In the Philippines unskilled workers came just under daily minimum wage, whilst skilled workers were well over it. Overall, even when daily pay is in line with minimum wage, it is the **low number of days work per year which is the main obstacle for many workers.** Future projects might therefore focus not only on ensuring minimum wage, but also considering how, if possible, to **provide greater security and continuity of work** on Reall-funded sites.
- *Net income change*: In Nairobi and the Philippines the majority of workers reported that their **pay at Reall-funded sites was similar to or better than comparable constructions sites** where they had worked previously. The majority in Nairobi believed their income was increasing over time, but those in the Philippines felt that it was just stable.
- *Job displacement:* Because Reall-funded CLIFF projects are effectively filling a 'gap in the market' for housing construction (low-income housing delivery), **it is unlikely that the work created is displacing employment elsewhere.** In each context over 50% of unskilled workers believed that they would not have easily found work elsewhere if they had not obtained the work on their current site, again suggesting that work is not being displaced. However, skilled workers were much more confident that they would find work elsewhere. This may also suggest a greater abundance of unskilled labour, whilst skilled labour is in higher demand.
- *Excessive working time:* The ILO defines this as over 48 hours per week. In both Kenya and the Philippines **unskilled and skilled workers were typically working 48-hour weeks** (6 days per week, and 8 hours per day).
    - *Working time and 'jobs':* Comparing working hours is also a useful contrast with other definitions of a 'job' from previous publications. DFID has defined 'employment' as the equivalent to 520 hours of work (Fowler and Markel 2014). The weighted average for Nairobi was 209.4 work-days per year (Table 12) or 1,675 work-hours per year, and in Cebu and Davao, this was 254.5 work-days or 2,032 work-hours per year. Therefore, although most unskilled and skilled workers are not working a 'full year'

in terms of available working weeks, **they are working a full week to achieve close to minimum wage per year** – see section 2.3 for more details. (It is of note that data from other projects demonstrates that informal workers typically work 10-12 hours a day, so being able to achieve a minimum wage working an 8-hour day is a significant improvement on other types of informal employment).

- *Stability and Security at work:* Almost all unskilled and skilled construction workers were **'precariously employed'** (ILO 2017) because of the temporary nature of their contracts, and most unskilled labourers were on daily or weekly contracts. It should be noted that this is 'normal' for construction work in these contexts. What is likely to matter more is continuity of work, and a regular income. In Nairobi, skilled workers typically found their jobs to be more stable than unskilled workers, although the percentage of skilled workers who found their jobs to be stable was lower in the Philippines.
    - *Secondary employment* for both unskilled and skilled workers in Nairobi was only 25%, whilst in the Philippines it was 28.6% for unskilled and 42.9% for skilled workers. High levels of secondary employment are common in informal and precarious work settings. It may be that levels of secondary work amongst unskilled workers were relatively low because of the difficulties of filling irregular gaps between work, or because they had limited skills to perform other types of work.
- *Skill creation:* It was notable that in all study contexts unskilled workers had lower levels of education and had less training than their skilled counterparts. In both contexts **the majority of unskilled workers had received some informal training on-site**, and believed that **they had gained useful skills on-site** which would help them find work elsewhere. The majority of skilled workers were involved in the training of others on-site. This suggests that skill creation is taking place, if informally.

5.2.4 Beneficiaries livelihood change

Our study was not longitudinal, so it is not possible to report fully measurable changes in beneficiaries' livelihoods, incomes and costs, and this is one of our recommendations below. It should also be noted that due to the complex nature of beneficiary's livelihood change as linked to moving to more secure accommodation, **it would be difficult to quantify beneficiary livelihood change as work-days,** and add this to the direct and indirect 'work-days' per unit for housing construction. If such as measure was desired, then additional income generated over time could be used from beneficiary data alongside direct and indirect employment data. Better, however, would be **to monitor beneficiary income change and livelihood security separately**, and to also focus on **measurable changes as related to the ILO Decent Work Agenda.**

The data provided in this report on beneficiaries might provide a baseline against which to compare future longitudinal beneficiary monitoring. Our research has demonstrated that initially **livelihood change is often mixed for beneficiaries**, with similar proportions reporting both increases and decreases in income at the time of moving to a new property. It was common for household costs to also increase, due to increases in mortgage payments compared to previous rent, and increased transport costs due to peri-urban locations, although employment consolidates over time.

It is clear from our data that less tangible benefits, such as **improved quality of life** were important for beneficiaries, including feeling less crowded, more secure, and living in a healthier and cleaner environment. These 'less tangible' benefits are hard to quantify, and it may be that beneficiaries are prepared to make other livelihood sacrifices for such benefits associated with owning a home.

5.2 Recommendations

We have identified easy ways for partners to monitor and report back to Reall on a) and c) of the employment impacts above, as follows:

- *Direct employment during construction:* **Direct employment during construction should be monitored through weekly site reports,** and reported as **work-days generated per unit**. Both NACHU and LinkBuild keep weekly site records monitoring how many skilled and unskilled workers are on site during any week, which could be collated and reported to Reall as part of regular reporting procedures. LinkBuild should include the person-days of sweat equity in their reporting. Based on estimates from key informants in Nairobi, a factor of at least 10.5% should be added to cover management and administration time on each project, however in future studies could seek to capture the full chain of employment including office staff, end-user finance and other affiliated workers. As technology evolves, the data could be collected through electronic recording of workers' entry and exit from the site.

- *Housing beneficiary employment before and after occupation:* **Changes in beneficiaries' employment and income should be monitored before and after occupation, and over time**. Before selection, beneficiaries have to complete surveys on their household characteristics and finances. Beneficiaries are then monitored throughout their loan repayment period. In Kenya at least, there should be follow-up surveys at two and five years, surveying beneficiary employment and household income change, using the model of survey design used in this study. These should be extended to include questions about livelihood change, and 'decent work'. They should also capture less tangible benefits, such as quality of life, which could be added to case study material.

Reall's work has no direct impact on b) but its policies could consider the following:

- *Indirect employment from materials manufacture and supply:* The construction chain is complicated, and partner projects are relatively small-scale in relation to wider processes of urban development in which they take place. Nevertheless, Reall could develop construction policies that:
  i) **prioritise labour-intensive construction methods**, which incorporate components of the ILO's Decent Work philosophy;
  ii) **prioritise the use of locally-manufactured materials**, and
  iii) seek to use suppliers with employment practices that **protect worker rights**.

  For example, in Nairobi stone from informal quarries were one of the main sources of supply, both for Reall and much of the construction sector, but working conditions in these quarries were poor. Ensuring that contractors and suppliers source responsibly will contribute towards better working conditions generally.

Beneficiary employment

Partners work extensively with beneficiaries to support the loan repayment process. Some work also goes in to raising awareness of the livelihoods opportunity of moving to new housing. However, our findings show that in the short term, the livelihoods impact of moving to a Reall project is mixed. Some beneficiaries commute to their former place of work, and some continue their work in the new location, and others take up new employment. In Nairobi, where housing was around 40km from the city centre, some households did not move in, only visiting at weekends.

Beneficiaries would benefit from **support to build entrepreneurship skills and livelihoods capacity.** We thus recommend that partners are encouraged to develop explicit livelihoods programmes and share these between the Reall community, to develop expertise on managing livelihood change in moving to new properties. These include both design and layout features, and building the entrepreneurship of beneficiaries, and could include the following types of activities:

- *Urban agriculture:* One of the most common activities was urban agriculture, supplementing household diets and providing a surplus for sale. Two recommendations are made:
    i) *Design:* set aside top-soil during construction, and return to plots on completion to promote soil quality;
    ii) *Entrepreneurship:* for example, through encouraging housing federations to set up communal seed-buying initiatives.

- *Home-based enterprise:* In both sites, there were some examples of home-based enterprise, such as tailoring, cooking food for sale, or child-minding. This often takes place in the main living room, used during the day for productive work and in the evening and morning as living space.
    i) *Design:* Allow for adaptable housing, including a flexible, well-lit space to support home-based work;
    ii) *Entrepreneurship:* Set up cooperative buying, sale or transport mechanisms, e.g. bulk purchase of second-hand shoes for washing.

- *Tuck shops / sari-sari shops:* In both Kenya and the Philippines it was common for households to set up 'corner shops', selling crisps, sweets, drinks, eggs, soap and other basic household items, located in either a small structure in the front yard, or the ground floor room of the house. These were most successful when located on the corner at the entrance to the site.
    i) *Design:* The cross-subsidy potential of well-located corners sites could be recouped through layouts which provide larger plots at these locations, with a higher sale price;
    ii) *Entrepreneurship:* Provide training in financial accounting for small retail enterprises.

- *Transport to and from employment centres:* Two aspects are important here: the road network and means of transport. The main access road often falls outside the partners' development sites, but can create access problems, particularly during the rainy season if the road is not surfaced. It can also be circuitous and a long route for pedestrians.
    i) *Design:* Include funding in scheme design for off-site road surfacing, and direct pedestrian paths to and from main access roads;
    ii) *Means of transport:* Consider subsidising interim transport while the site is in the early phases of development, e.g. a mini-bus or motor-cycle transport in the morning and evening.

- *Cooperatives:* Although not observed in Kenya and the Philippines, where beneficiaries form strong federations there is scope for cooperative business development. For example, in one Reall project in Tanzania, women in the savings group formed a collective business making and selling liquid soap.
    i) *Entrepreneurship:* Business development training could support cooperative development, and financial inclusion.

- *Construction:* In both countries, beneficiary households were to some extent involved in the construction of their homes, in Kenya through the contractor's policy of hiring unskilled workers nearby to the site, if possible, from beneficiary families, and in the Philippines through sweat equity. Under both systems, project managers could ensure that unskilled workers have short apprenticeships working with a skilled craftsman to learn a trade. Other Reall partners have supported women's cooperatives in learning specific building trades which they then use elsewhere, e.g. bricklaying and decorating.
    i) *Entrepreneurship:* Require project managers to report on the training system for any unskilled worker spending more than 1 month on site;

ii) *Entrepreneurship:* Encourage the formation of women's cooperatives with relevant training in specific construction skills.

- *Training:* Training programmes can help beneficiaries develop new skills appropriate to their new location, and can benefit from training to introduce new skills, e.g. in hairdressing, car mechanics or computing. NACHU and LinkBuild run some training programmes in addition to their Reall projects.
- *Financial inclusion:* A specific area of training that may be valuable to beneficiary households is on financial inclusion, to ensure that they can access secure savings and credit facilities at reasonable rates of interest. Also important for own-account workers is knowing how to manage business finance, and cost their own labour inputs, e.g. in tailoring.
- *Monitoring employment change:* It takes time for beneficiaries to consolidate their livelihoods after moving to new housing, which emphasises the need for on-going monitoring of beneficiaries, at least until loans are fully repaid.

References

Bakker, S., Kirango, J. & Van der Ree, K. (2000) *Both sides of the bridge: Public–private partnership for sustainable employment creation in waste management, Dar es Salaam*. Paper presented at the workshop on ''Planning for Sustainable and Integrated Solid Waste Management'', Manila, The Philippines.

Brown, A. M. B., Msoka, C. and Dankoco, I. 2014. A refugee in my own country: Evictions or property rights in the urban informal economy?. *Urban Studies* 52(12), pp. 2234-2249.

CIBD (2005) *Labour-based methods and technologies for employment-intensive construction works: Best practice guidelines – Part 1*, Construction Industry Development Board, March 2005.

Das, A. (2015) Slum upgrading with community-managed microfinance: towards progressive planning in Indonesia, *Habitat International,* 47, pp. 256-266.

Fowler, B. and Markel, E. (2014) *Working Paper: Measuring Job Creation in Private Sector Development*, MarketShare Associates, Donor Committee for Enterprise Development (DCED), June 2014.

Gulyani, S. & Bassett, E.M. (2007) Retrieving the baby from the bathwater: slum upgrading in Sub-Saharan Africa, *Environment and Planning C: Government and Policy,* 25, pp. 486-515.

ILO (2006) *Decent work at the local level*. (Geneva: ILO).

ILO (2008) *Measurement of decent work based on guidance received at the Tripartite Meeting of Experts on the Measurement of Decent Work*, September 2008.

ILO (2013) *Decent Work Indicators: Guidelines for Producers and Users of Statistical and Legal Framework Indicators*. ILO Manual: Second Version, (Geneva: ILO), December 2013.

ILO (2017) *Current Guidelines: on the Resolution concerning the International Classification of Status in Employment (ICSE)*, available online: http://www.ilo.org/global/statistics-and-databases/statistics-overview-and-topics/status-in-employment/current-guidelines/lang--en/index.htm [last accessed 06/06/2017]

ILO and UNHCS (1997) *Shelter Provision and Employment Generation*. ILO (International Labour Organisation) and UN-Habitat (United Nations Centre for Human Settlements) (Geneva/Nairobi: ILO and UNCHS).

Jason, A. (2008) Organising informal workers in the urban economy: the case of the construction industry in Dar es Salaam, Tanzania. *Habitat International,* 32, pp. 192-202.

Kenya (2012 [2007]) *Employment Act: Chapter 7*, National Council for Law Reporting, Revised Edition 2012), Government of Kenya.

Klink, J. (2006) *The role of local authorities in promoting decent work. Towards an applied research agenda for the construction and urban development sector.* ILO working paper, (Geneva: ILO).

Lawrence, R.J., Gil, M.P., Flückiger, Y., Lambert, C. & Werna, E. (2008) Promoting decent work in the construction sector: the role of local authorities, *Habitat international,* 32, pp. 160-171.

Philippines (2011) *Labour Code of the Philippines: Presidential Degree No. 442*, Department of Labour and Employment, Government of the Philippines.

Sen, N. and Kessler, A. (2015) *Guidelines to the DCED Standard for Results Measurement: Defining Indicators of Change, DCED* (The Donor Committee for Enterprise Development), May 2015

Szirmai, A., Gebreeyesus, M., Guadagno, F. and Verspagen, B. (2013) *Promoting productive employment in sub-Saharan Africa: A Review of the Literature*, United Nations University.

Thwala, W.D. (2005) Employment creation through the provision of low cost housing in South Africa. *World Congress on Housing,* Pretoria, South Africa, September 27-20, 2005.

Williams, D.G. (2007) *Participatory approaches for planning and construction-related assistance in settlement upgrading and expansion: the roles of tripartite actors and other stakeholders*, ILO Working Paper, (Geneva: ILO).

Appendices

Appendix A: Construction workers – Nairobi, Kenya

All construction worker statistics were divided by worker type: unskilled, skilled (e.g. mason, carpenter/joiner, plumber, roofer), and management & administration (involved in site or company management). Out of the 40 construction workers interviewed in Nairobi 16 were unskilled, 17 were skilled, and 7 worked in management and administration.

Person profile of construction workers

Age

The majority of construction workers interviewed were between 26-35 years old. There were no construction workers under the age of 18 and the only workers aged over 55 years old were skilled workers.

	Unskilled		*Skilled*		*Management*	
Age bracket	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
18-25	18.8	3	41.2	7	28.6	2
26-35	43.8	7	23.5	4	28.6	2
36-55	37.5	6	17.6	3	42.9	3
55+	0	0	17.6	3	0	0
Total	100	16	100	17	100	7

Gender

Out of 40 construction workers interviewed 3 (5%) were female – two of which were unskilled workers and one was a skilled worker.

	Unskilled		*Skilled*		*Management*	
Gender	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Male	87.5	14	94.1	16	100	7
Female	12.5	2	5.9	1	0	0
Total	100	16	100	17	100	7

Average number of household dependents

The number of household members (excluding the main respondent) across the sample ranged from 0 to 7, though the average was 2.3. Skilled workers tended to have smaller household sizes than the other categories, and unskilled workers had marginally more than management staff.

Worker type	*Av. household members*
Unskilled	3.1
Skilled	1.4
Management	2.9

Highest education level

The majority of construction workers (26.3%) had completed secondary level education.

Education level	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
None	0	0	11.8	2	0	0
Some primary	25	4	17.6	3	0	0
Completed primary	0	0	11.8	2	20	1
Some secondary	18.8	3	11.8	2	40	2
Completed secondary	43.8	7	17.6	3	0	0
Completed college	0	0	17.7	3	20	1
Other HE	12.5	2	11.8	2	20	1
Total	100	16	100	17	100	5

Job profile of construction workers

Commute

37.5% of all workers interviewed commuted for 21-40 minutes to get to the NACHU site. A large proportion of unskilled workers stayed on site (43.8%) or walked to the site (37.5%) which was reflected in their generally shorter commutes.

Commute duration	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
0-10 minutes	37.5	6	17.6	3	14.3	1
11-20 minutes	6.3	1	29.4	5	14.3	1
21-40 minutes	31.3	5	47.1	8	28.6	2
41-60 minutes	25	4	5.9	1	28.6	2
Over an hour	0	0	0	0	14.3	1
Total	100	16	100	17	100	7

Commute mode	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Public transport	18.8	3	11.8	2	0	0
Walk	37.5	6	76.5	13	85.7	6
On site	43.8	7	11.8	2	14.3	1
Total	100	16	100	17	100	7

Contract type

The majority of construction workers (60%) were employed on a weekly contract, while only 10% had a permanent contract. 93.8% of unskilled workers were on a weekly contract compared to 47.1% of skilled workers and 14.3% of management & administration staff.

Contract type	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Daily	0	0	11.8	2	28.6	2
Weekly	93.8	15	47.1	8	14.3	1
Short-term	6.3	1	29.4	5	28.6	2
Permanent	0	0	11.8	2	28.6	2
Total	100	16	100	17	100	7

Average number of days of on site

Across the sample the number of days that construction workers had been on site ranged from 6 days to 297 days, though the average was 136 days. There was only a small divergence between workers types.

Worker type	*Av. days worked on this site*
Unskilled	137
Skilled	140
Management	128

Average number of years doing current type of work

The amount of time all construction workers had spent doing their current type of work ranged from 3 months to 40 years, though the average was 7 years and 4 months. On average those in skilled or management jobs had spent more time doing their type of work than unskilled workers.

Worker type	*Av. years doing construction work*
Unskilled	3
Skilled	10.5
Management	9

Average daily pay

Across the sample the daily pay ranged from KSH 450 to 6,667 (USD 4.46 to 66.08). The average was KSH 995 (USD 9.89). On average management and administration workers earned almost 2x more than skilled workers, and more than 2.5x more than unskilled workers. However, the top figure was a Site Agent who gave his income as KSH 40,000 per week (USD 396.47), which skews the data considerably. Discounting him the average daily pay for management and administration staff becomes KSH 1,190 (USD 11.80). There was some, but not as much deviation in pay between unskilled and skilled workers.

Worker type	*Av. daily pay (KSH)*
Unskilled	560.5
Skilled	1003
Management	1972

Wage comparison with other construction sites

The majority of construction workers (47%) stated that their wages were higher than on other construction sites, although this opinion tended to be most prevalent amongst unskilled workers.

Wage comparison	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Higher	83.3	10	31.3	5	16.7	1
Similar	8.3	1	37.5	6	83.3	5
Lower	8.3	1	31.3	5	0	0
Total	100	12	100	16	100	6

Secondary employment

Only 23.1% of construction workers said that they had secondary employment. Of the 9 interviewees who did engage in secondary employment, 4 were unskilled workers, 4 were skilled workers and just 1 was in management.

Secondary employment	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	25	4	25	4	14.3	1
No	75	12	75	12	85.7	6
Total	100	16	100	16	100	7

Average number of weeks worked in last year

Although the number of weeks worked for all income-earning activities over the last year ranged from 0 to 50 weeks, there was relatively little difference in the average number of weeks by worker type. The average number was 35 weeks.

Worker type	*Av. no. of weeks worked over past year*
Unskilled	32
Skilled	38
Management	34

Work stability over last three years

Over 61% of construction workers considered their work situation to have been stable over the past 3 years. However, unskilled workers and those in management and administration roles considered their work to be more unstable than skilled workers.

	Unskilled		*Skilled*		*Management*	
Stable work	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	56.3	9	70.6	12	50	3
No	43.8	7	29.4	5	50	3
Total	100	16	100	17	100	6

Income levels over last three years

Over 65% of construction workers had witnessed an increased in their incomes over the last 3 years, whilst only 5% reported a decrease. More unskilled and skilled workers had experienced this increase in comparison with management and administration staff who reported income stability.

Income over last 3 years	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Increase	80	12	64.7	11	33.3	2
Decrease	6.7	1	5.9	1	0	0
Stable	13.3	2	29.4	5	66.7	4
Total	100	15	100	17	100	6

Average number of days spent idle in last year

The number of days all construction workers spent idle (excluding Sundays) over the last year ranged from 0 to 312 days, although the average was 90 days. Unskilled workers were much more likely to be idle than skilled or management workers.

Worker type	*Av. days idle over last year*
Unskilled	133.2
Skilled	56.25
Management	70.80

Employability of construction workers

Likelihood of finding employment at other site

Overall 61.5% of all construction workers believed that they would have found work at other sites if they had not been currently employed. Unskilled workers consider their likelihood of finding employment elsewhere less likely than their skilled or management counterparts.

Likelihood of finding employment at another site	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Likely	37.5	6	82.4	14	66.7	4
Unlikely	50	8	11.8	2	33.3	2
Unsure	12.5	2	5.9	1	0	0
Total	100	16	100	17	100	6

Average length of time in training for profession

The number of months spent in training for the profession across worker types ranged from 0 to 25 months, though the average is 8 months. Unskilled workers were generally below this average, while skilled and management workers were often in training for longer than the 8 month average.

Worker type	*Av. months training on site*
Unskilled	3.82
Skilled	10.5
Management	10.75

Engagement with training on site

57% of all construction workers had received some sort of on-site training. However, the majority of this training (54.1%) was informal in nature. Only skilled workers seem to have received any formal training, and even then it seems to have been implemented alongside informal training.

Type of on site training	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Informal	78.6	11	35.3	6	50	3
Formal	0	0	0	0	0	0
Both	0	0	5.9	1	0	0
None	21.4	3	58.8	10	50	3
Total	100	14	100	17	100	6

Current training on site

Half of the construction workers stated that they are currently receiving training on site in order to do their job. More unskilled workers (58%) are in training than skilled workers (50%) or those in management roles (33.3%).

Currently receiving training	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	58.3	7	50	8	33.3	2
No	41.7	5	50	8	66.7	4
Total	100	12	100	16	100	6

Involvement in training others on site

Just over half of construction workers (56%) claimed that they are involved in training others on site, with the majority of skilled and management workers actively training other workers.

Training others on site	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	25	4	76.5	13	83.3	5
No	75	12	23.5	4	16.7	1
Total	100	16	100	17	100	6

Skills gained whilst working on site

The majority of workers (79%) had gained skills or training while on the site, although this seems to be more relevant for unskilled and skilled workers than those in management and administration.

Gained skills or training on site	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	93.3	14	76.5	13	50	3
No	6.7	1	23.5	4	50	3
Total	100	15	100	17	100	6

Skills gained improve employment prospects

The majority of construction workers (97%) felt that the skills and training that they had received on site would help them to acquire better employment in the future, although this was more strongly felt by unskilled and skilled workers.

Skills gained will lead to better employment	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	93.3	14	76.5	13	50	3
No	6.7	1	23.5	4	50	3
Total	100	15	100	17	100	6

Appendix B: Construction workers – Cebu and Davao, Philippines

All construction worker statistics were divided by worker type: unskilled, skilled (e.g. electrician, painter), and management & administration (skilled but involved in site management). Out of the 17 construction workers interviewed in Cebu and Davao 7 were unskilled, 7 were skilled, and 3 worked in management and administration.

Person profile of construction workers

Age

There was an even spread of workers between the ages of 18 and 55. There were only two workers (one skilled and one unskilled) over the age of 55.

	Unskilled		*Skilled*		*Management*	
Age bracket	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
18-25	42.9	3	14.3	1	33.3	1
26-35	28.6	2	42.9	3	0	0
36-55	14.3	1	28.6	2	66.7	2
55+	14.3	1	14.3	1	0	0
Total	100	7	100	7	100	3

Gender

All 17 construction workers were male.

Highest education level

Across the sample 42.7% had completed some secondary education. None of the unskilled workers interviewed had completed secondary school, unlike a third of skilled and management workers. None of the sample had completed college or other higher education.

Education level	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
None	0	0	0	0	0	0
Some primary	42.9	3	14.3	1	0	0
Completed primary	28.6	2	14.3	1	0	0
Some secondary	28.6	2	42.9	3	66.7	2
Completed secondary	0	0	28.6	2	33.3	1
Completed college	0	0	0	0	0	0
Other HE	0	0	0	0	0	0
Total	100	7	100	7	100	3

Average number of household dependents

The number of household members (excluding main respondents) across the sample ranged from 0 to 10, though the average was 4. Skilled workers tended to have fewer dependents than the other categories, with unskilled workers on average having far more dependents.

Worker type	*Av. no. of household members*
Unskilled	6.3
Skilled	2.3
Management	2.7

Job profile of construction workers

Commute

Daily commutes to site by all workers tended (64.3%) to be up to 40 minutes. However, a significant percentage of unskilled (67.7%) and management (33.3%) workers stayed on site during the week, the majority of these commuting over an hour once a week. The only commute by car was undertaken by management staff.

Commute duration	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
0-10 minutes	33.3	2	20	1	33.3	1
11-20 minutes	0	0	0	0	0	0
21-40 minutes	16.7	1	80	4	0	0
41-60 minutes	0	0	0	0	33.3	1
Weekly - over an hour	50	3	0	0	33.3	1
Total	100	6	100	5	100	3

Commute mode	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Public transport	0	0	80	4	33.3	1
Walk	16.7	1	20	1	0	0
Bike	16.7	1	0	0	0	0
Car	0	0	0	0	33.3	1
On site	66.7	4	0	0	33.3	1
Total	100	6	100	5	100	3

Contract type

The majority of construction workers (64.7%) were employed on a weekly contract, and only one management staff had a permanent contract.

Contract type	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Daily	14.3	1	0	0	0	0
Weekly	57.1	4	85.7	6	33.3	1
Short-term	28.6	2	14.3	1	33.3	1
Permanent	0	0	0	0	33.3	1
Total	100	7	100	7	100	3

Average number of days of on site

Across the sample the number of days that construction workers had been on site ranged from 27 days to 864 days, though the average was 274 days. There was considerable divergence between worker types, however the average for management workers was skewed by one individual working 300 days more.

Worker type	*Av. days worked on this site*
Unskilled	245
Skilled	162
Management	520

Average number of years doing current type of work

The amount of time all construction workers spent doing their current type of work ranged from 3 months to 31 years, though the average was 9. There was a divergence of 12 years for unskilled workers, and 14 years for management workers, reflecting the range of worker ages rather than career changes.

Worker type	*Av. years doing construction work*
Unskilled	8
Skilled	3
Management	16

Average daily pay

Across the sample the daily pay ranged from PHP 233 to 700 (USD 4.44 to 13.33). The average was PHP 432 (USD 8.28). Management and skilled workers earn roughly 60% more than unskilled workers.

Worker type	*Av. daily pay (pesos)*
Unskilled	313
Skilled	500
Management	550

Wage comparison with other construction sites

Half of all construction workers (50%) stated that their wages at the Reall-funded sites are higher than on other construction sites. However, 57.1% of skilled workers believed that their pay was comparatively lower.

Wage comparison	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Higher	50	3	42.9	3	66.7	2
Similar	33.3	2	0	0	33.3	1
Lower	16.7	1	57.1	4	0	0
Total	100	6	100	7	100	3

Secondary employment

Only 35.3% of all construction workers said that they had a secondary form of employment. Of the six interviewees who engaged in secondary employment two were unskilled workers, three were skilled workers and just one was in management.

Secondary employment	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	28.6	2	42.9	3	33.3	1
No	71.4	5	57.1	4	66.7	2
Total	100	7	100	7	100	3

Average number of weeks worked in last year

The number of weeks worked for all income-earning activities over the last year across all construction workers ranged from 0 to 52 weeks, though the average was 43 weeks. The greatest deviation was for unskilled workers, who varied by 20 weeks.

Worker type	*Av. no. of weeks worked over past year*
Unskilled	35
Skilled	47
Management	49

Work stability over last three years

Overall 56.3% of construction workers considered their work situation to have been stable over the past three years. However, unskilled workers considered their work to be more unstable than skilled or management workers.

	Unskilled		*Skilled*		*Management*	
Stable work	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	50	3	57.1	4	66.7	2
No	50	3	42.9	3	33.3	1
Total	100	6	100	7	100	3

Income levels over last three years

53.3% of construction workers reported that their incomes had been stable over the last three years, whilst 33.3% believed they had increased.

Income over last 3 years	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Increase	20	1	28.6	2	66.7	2
Decrease	20	1	14.3	1	0	0
Stable	60	3	57.1	4	33.3	1
Total	100	5	100	7	100	3

Average number of days spent idle in last year

The number of days all construction workers spent idle (excluding Sundays) over the last year ranged from 0 to 324 days, although the average was 76 days. Unskilled workers were much more likely to be idle than skilled or management workers.

Worker type	*Av. days idle over last year*
Unskilled	123
Skilled	45
Management	41

Employability of construction workers

Likelihood of finding employment at other site

Just over 71.4% of all construction workers believed that they would have found work at other sites if they had not been currently employed. As with work stability, unskilled workers considered their likelihood of finding employment elsewhere less likely than skilled or management workers.

Likelihood of finding employment at another site	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Likely	42.9	3	100	5	100	2
Unlikely	57.1	4	0	0	0	0
Total	100	7	100	5	100	2

Average length of time in training for profession

The number of months spent in training for the profession across worker types ranged from 0 to 20 months, though the average was 4 months. None of the skilled workers responded to this question.

Worker type	*Av. months training on site*
Unskilled	1
Management	20

Engagement with training on site

Across the sample 52.9% of construction workers had received training on site, however this was all informal in nature.

Type of on site training	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Informal	71.4	5	42.9	3	33.3	1
Formal	0	0	0	0	0	0
Both	0	0	0	0	0	0
None	28.6	2	57.1	4	66.7	2
Total	100	7	100	7	100	3

Current training on site

The majority (88.2.3%) of construction workers stated that they were not currently receiving training on site. Only some unskilled workers (28.6%) stated that they were currently receiving training.

Currently receiving training	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	28.6	2	0	0	0	0
No	71.4	5	100	7	100	3
Total	100	7	100	7	100	3

Involvement in training others on site

Just over half of construction workers (62.5%) claimed that they were involved in training others on site, with the majority of skilled and management workers actively training other workers.

Training others on site	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	33.3	2	71.4	5	100	3
No	66.7	4	28.6	2	0	0
Total	100	6	100	7	100	3

Skills gained whilst working on site

The majority of workers (70.6%) stated that they had gained skills or training while on the site, although just under half of unskilled workers believed they had not.

Gained skills or training on site	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	57.1	4	85.7	6	66.7	2
No	42.9	3	14.3	1	33.3	1
Total	100	7	100	7	100	3

Skills gained improve employment prospects

The majority of construction workers (87.5%) felt that the skills and training they had received on site would help them to acquire better employment in the future. However, reflecting the proportion who had not gained skills on site, some unskilled workers felt that their prospects had not improved.

Skills gained will lead to better employment	*Unskilled*		*Skilled*		*Management*	
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Yes	71.4	5	100	6	100	3
No	28.6	2	0	0	0	0
Total	100	7	100	6	100	3

Appendix C: Beneficiaries – Nairobi, Kenya

Researchers conducted interviews with 68 households living in Reall-funded housing projects in Nairobi. These beneficiary respondents were either the head of household or another adult household member of the household. The survey asked them about their individual employment and income as well as that of other members of their household.

Person profile of main beneficiary respondents

Age

The majority of main beneficiary respondents were aged between 36-55 years (57.4%), although a significant proportion were between 26-35 years (23.5%).

Age bracket	*Percentage*	*Frequency*
18-25	7.4	5
26-35	23.5	16
36-55	57.4	39
55+	11.8	8
Total	100	68

Gender

There were slightly more female beneficiary respondents (58.8%) interviewed than male beneficiary respondents (41.2%).

Gender	*Percentage*	*Frequency*
Male	41.2	28
Female	58.8	40
Total	100	68

Employment profile of main beneficiary respondents

Employment and secondary work

The main occupations and secondary employment of the main beneficiary respondents is outlined in the table below – 58 of the 68 main beneficiary respondents were actively employed. The majority work in *sari sari* shops (corner shops) (13.3%) or trade in second-hand clothing (7.4%). Construction workers (including skilled and unskilled labourers) also make up a significant proportion (13.3%). Beneficiary respondents with 'other' secondary employment include a ranger, fashion designer, landlady, a security consultant and officer, and a gas cylinder supplier.

Of the 68 main beneficiary respondents 25 had a secondary form of employment (36.8%) , which tended to be less formal or flexible types of employment and may be self-employed ventures.

Occupation	*Main occupation*		*Other occupation*	
	Percentage	Frequency	Percentage	Frequency
Unemployed/retired	8.8	6	-	-
Student	1.5	1	-	-
Housewife	4.4	3	-	-
Petty trade – hawker	4.4	3	3.6	2
Petty trade – tuck shop	13.3	9	3.6	2
Retail	4.4	3	3.6	2
Personal services	2.9	2	1.8	1
Tailoring	1.5	1	1.8	1
Clothes – new	1.5	1	0	0
Clothes – second-hand	7.4	5	1.8	1
Urban agriculture	5.9	4	3.6	2

Farming	1.5	1	1.8	1
Admin/Government	2.9	2	1.8	1
Education	2.9	2	0	0
Cooking food	2.9	2	0	0
Domestic work/ childcare	1.5	1	3.6	2
Construction - unskilled	7.4	5	1.8	1
Construction – skilled	5.9	4	5.5	3
Construction – supplier	2.9	2		0
Manufacture – petty	2.9	2	1.8	1
Manufacture – large-scale	1.5	1		0
Driver	2.9	2	1.8	1
Other	8.8	6	7.3	4
Total	100	68	100	25

Average length of time in current main employment

The number of years that beneficiary respondents had spent in their current main employment ranged from 5 months to 38 years. The average number of years spent in current employment was 10.5 years.

Average number of hours worked per day, days worked per week, and weeks worked per year

For all beneficiary respondents the average number of hours worked per day was 9 hours, the average number of days worked per week was 6 days, and the average number of weeks worked per year was 48 weeks. The breakdown of all these averages by employment type are in the table below.

Occupation	*Av. hours per day*	*Av. days per week*	*Av. weeks per year*
Petty trade – hawker	7.5	5.5	48
Petty trade – tuck shop	12	5.5	48
Retail	6	6	49
Personal services	7.5	4.5	50
Tailoring	8	6	44
Clothes – new	12	6	50
Clothes – second-hand	8.5	6	47.5
Urban agriculture	8	6	48
Farming	9	6	50
Admin/Government	8	5.5	48
Education	8.5	5.5	32
Cooking food	8	6	44
Domestic work/ childcare	12	6	-
Construction - unskilled	8	6	46
Construction – skilled	10	5	50
Construction – supplier	9	7	52
Manufacture – petty	8	6	48
Manufacture – large-scale	8	6	51
Driver	10.5	6.5	-
Other	8	5.5	51
Average	9	6	48

Average daily pay

For all beneficiary respondents the average daily pay ranged from KSH 0 to 4,166 (USD 41.29), and averages at KSH 889 (USD 8.89). The breakdown of average daily pay by gender, age and employment type is given in the tables below.

Female beneficiary respondents generally received a lower daily pay than male beneficiary respondents, with an average difference of KSH 356 (USD 3.56).

Gender	*Average daily pay (KSH)*
Male	1,079
Female	723

The highest earners were the oldest beneficiary respondents in the 55+ age bracket, however this was based on only 5 responses. As the majority of the beneficiary respondents were in the middle two age brackets, it is notable that those aged 36-55 earn more on average than those aged 26-25.

Age bracket	*Average daily pay (KSH)*
18-25	900
26-35	734
36-55	914
55+	1,100

With regards to occupation, the highest earners on average were those working in education, petty manufacturing, driving or other occupations such as a ranger, fashion designer, landlady, a security consultant and officer, and a gas cylinder supplier. Those with the lowest daily pay on average were those who worked as hawkers, tailors and in retail businesses.

Occupation	*Average daily pay (KSH)*
Petty trade – hawker	520
Petty trade – tuck shop	840
Retail	591
Personal services	650
Tailoring	300
Clothes – new	926
Clothes – second-hand	759
Urban agriculture	958
Admin/Government	659
Education	2,683
Cooking food	800
Construction - unskilled	780
Construction – skilled	967
Manufacture – petty	1,083
Manufacture – large-scale	925
Driver	1,833
Other	1,077

Main beneficiary respondent occupation at new residence

Change of employment

Of the 65 beneficiary respondents who responded to this question, 35.4% had changed occupation since the move to their new residence. Of those 23 beneficiaries 11 had seen their income increase, while 10 had seen it decrease. The job trajectory of the 23 beneficiary respondents who had changed occupation is summarised below.

No.	*Gender*	*Current Occupation*	*Previous Occupation*	*Reason for change*	*Individual income difference*	*Household income difference*
1	***Female***	Urban agriculture (livestock & crops)	Urban agriculture (only crops)	Space to rear chickens	Increase	Increase
2	***Female***	Social worker and mutumba	Only social worker	Opportunity to sell clothes in neighbourhood whilst pregnant	Increase	Increase
3	***Female***	M-Pesa shop	Teacher	Closer place of work	Increase	Increase
4	***Male***	Mason	Collecting and selling waste paper	Previous job didn't cover costs of basic needs	Increase	Increase
5	***Male***	Driver	Marketing for wife's dress-making shop	Easier to be self-employed when landlord not pushing for rent	Increase	Increase
6	***Male***	Driver and sells water	Actor	Acting wasn't really paying	Increase	Increase
7	***Male***	Security officer	Fundi	Wanted to work in new area	Increase	Decrease
8	***Male***	Fundi and Garbage collector	Only a fundi	Opportunity to do garage collection for NACHU project	Increase	Decrease
9	***Female***	Cooking and selling food	Selling snacks	Workers in area dictate what she sells	Decrease	Increase
10	***Female***	Farmer	Sold newspapers, operated hotel and salon	Low income, lack of opportunities when construction finished	Decrease	Increase
11	***Female***	Retired	Teacher, sold fish	Retired when moved, cannot sell fish in new location	Decrease	Increase
12	***Male***	Unskilled construction labourer	Looked after horses	Move back to Nairobi from Dubai	Decrease	Increase
13	***Female***	Retail shop and salon	Selling groceries	No shop or salon here when she moved, so opportunity	-	Increase
14	***Female***	Only teacher	Teacher and selling clothes	Stopped selling clothes from home	Decrease	No change
15	***Female***	Unemployed	Fruit vendor	Son asked her to live in house so he didn't lose it	Decrease	Decrease
16	***Female***	Housewife	Sold snacks from home	No longer selling snacks	Decrease	Decrease
17	***Female***	Casual labourer and hawker	Tailoring business	Transport too expense to continue business	Decrease	Decrease

18	*Female*	Urban agriculture	Shopkeeper	Too far and expense to get to former workplace	Decrease	Decrease
19	*Male*	Construction materials supplier	Driver	Pursuing self-employment	Decrease	Decrease
20	*Male*	Supplies newspapers, farmer	Driver	Opportunities in new location	Decrease	Decrease
21	*Female*	Casual labourer	Hawker	Poor demand, low population compared to slum	-	Decrease
22	*Female*	Greengrocer	Urban agriculture (crops)	Started job here	-	Decrease
23	*Female*	Retired	Assistant nurse	Retired	No change	-

Profile of other household members

In total there were 196 members (including the beneficiary respondents themselves) in the 68 households. This equated to an average of 2.9 members per household. Some data is incomplete for other household members, so percentages and frequencies are based upon 'valid' figures. The following data relates to the 127 other household members whom are not the main beneficiary respondent.

Age

The majority of other household members tended to be between the ages of 0-17 years old (35.2%) or 36-55 years old (29.6%). This is a good indicator, along with occupation, of life-stage of the households.

Age bracket	*Percentage*	*Frequency*
0-17	35.2	43
18-25	17.2	21
26-35	11.5	14
36-55	29.5	36
55+	6.6	8
Total	100	122

Gender

There were marginally more male household members (54.9%) than female (45.1%). These other household members were predominantly the main beneficiary respondents' spouse or child.

Relationship/ Gender	*Male*	*Female*	*Total*
Spouse	31	25	56
Child	34	27	61
Sibling	1	3	4
In-law	1	0	1
			122

Employment profile of other household members

Employment type

Out of the 127 other household members, 59% were either unemployed, retired, working as a housewife or in education, and therefore did not contribute to the household income. Of the 52 other household members who were working, jobs in retail and driving were the most common. 'Other' jobs include a pharmacist, two security guards, a fashion designer and a hotelier.

Occupation, other household members	*Percentage*	*Frequency*
Unemployed/retired	6.3	8
Student	45.6	58
Housewife	7.1	9
Petty trade – hawker	0.8	1
Petty trade – tuck shop	4.7	6
Retail	7.9	10
Personal services	0.8	1
Clothes – new	0.8	1
Clothes – second-hand	2.4	3
Urban agriculture	0.8	1
Admin/Government	3.1	4
Education	1.6	2
Cooking food	0.8	1
Construction - unskilled	3.9	5
Construction – skilled	0.8	1
Construction – supplier	0.8	1
Manufacture – large-scale	1.6	2
Driver	6.3	8
Other	3.9	5
Total	100	127

Average income

Other household members' incomes ranged from KSH 74 to 3,000 per day (USD 0.73 to 29.74). The average daily wage was KSH 856 per day (USD 8.56).

Contract type

Out of the 52 other household members who were working (excluding the unemployed, retired, students and housewives), the majority were on permanent contracts, self-employed or business owners (48.1%), although a significant proportion (34.6%) were on daily contracts.

Contract type	*Percentage*	*Frequency*
Daily	34.6	18
Weekly	1.9	1
Short-term	15.4	8
Permanent	21.2	11
Self-employed/ owns business	26.9	14
Total	100	52

Household employment and income

Home working

The numbers of respondents differ between the questions but the percentage of main beneficiary respondents working from home had marginally increased (by 9.9%) as a result of beneficiaries moving into their NACHU properties.

Home-working	*Currently/ after move*		*Before move*	
	Percentage	*Frequency*	*Percentage*	*Frequency*
Yes	31.3	15	21.4	9
No	68.8	33	78.6	33
Total	100	48	100	42

Urban agriculture

Although only a third of beneficiary respondents said they were working from home, the majority (79.4%) took part in urban agriculture. Of those 54 households, some kept livestock (20.4%), some grew crops (24.1%), and the majority did both (55.5%). Livestock tended to be chickens but a few households kept goats or cattle. Crops grown include spinach, *sukuma wiki* greens (kale), aubergines, onions, beans, maize, sweet potatoes, pumpkin, tomatoes, watermelon and bananas.

Urban agriculture type	*Percentage*	*Frequency*
Livestock	20.4	11
Crops	24.1	13
Both	55.5	30
Total	100	54

Transport and travel time

The majority of main beneficiary respondents travelled by public transport (72.2%) rather than private vehicles or a combination of the two. The majority (56.5%) travelled for over 40 minutes.

Transport type	*Percentage*	*Frequency*
Private	13.9	5
Public	72.2	26
Both	13.9	5
Total	100	36

Travel time	*Percentage*	*Frequency*
0-10 minutes	13	3
11-20 minutes	17.4	4
21-40 minutes	13	3
41-60 minutes	26.1	6
Over an hour	30.4	7
Total	100	23

Average household income

Total household incomes ranged from KSH 1,200 to 198,800 per month (USD 11.89 to 1,970.46), and the average was KSH 34,097 per month (USD 340.94).

Changes to income and household costs

76.3% of beneficiary households had witnessed a change in their income since moving into their new properties, with more experiencing a decrease in income (46%) than an increase (33.3%). The majority (72.6%) of household finances had further been affected by increased costs incurred in the new residences, although they cited other advantages of the move. Loans and travel costs were most commonly cited as reasons for increased household costs

Change	Income		Household costs	
	Percentage	Frequency	Percentage	Frequency
Increased	33.3	21	72.6	45
Decreased	46	29	14.5	9
Remained the same	20.6	13	12.9	8
Total	100	63	100	62

Time taken to move in

It took beneficiary households up to five years to move into their properties, although some moved in immediately. The average household had to wait 1 year 5 months to move in.

Mortgage and NACHU opportunities

Current and previous mortgage

The average loan repayment of NACHU beneficiary households was KSH 12,037 per month (USD 119.31). Previous payments for rent or loans were KSH 6,825 per month (USD 67.65). Therefore, there had been an average increase of KSH 5,212 (USD 52.12) each month to the monthly repayments amongst the beneficiary households.

Credit

Out of the 60 beneficiary households who answered this question 46.7% had accessed credit or loans to cover the cost of their property, in addition to their mortgages.

Access to credit/loan	Percentage	Frequency
Yes	46.7	28
No	53.3	32
Total	100	60

Paid labour

A relatively small proportion (13.3%) of beneficiary households undertook paid labour themselves at the NACHU construction sites.

Undertook paid labour	Percentage	Frequency
Yes	13.3	8
No	86.7	52
Total	100	60

Employment creation programmes

Roughly a third of the 61 beneficiaries who answered this question (34.4%) had accessed employment creation and training programmes as a result of being connected with NACHU.

Access to employment creation programmes	Percentage	Frequency
Yes	34.4	21
No	65.6	40
Total	100	61

Appendix D: Beneficiaries – Cebu, Philippines

Researchers conducted interviews with beneficiary respondents of 44 households in Reall-funded housing projects in Cebu. Again, the survey asked them about their individual employment and income as well as that of other household members.

Person profile of main beneficiary respondents

Age

The majority of main beneficiary respondents were aged between 36-55 years (54.5%), although a significant proportion were aged over 55 (15%).

Age bracket	*Percentage*	*Frequency*
18-25	2.3	1
26-35	9.1	4
36-55	54.5	24
55+	15	15
Total	100	44

Gender

There were more than five times as main female beneficiary respondents (84.1%) interviewed than male beneficiary respondents (15.9%).

Gender	*Percentage*	*Frequency*
Male	15.9	7
Female	84.1	37
Total	100	44

Employment profile of main beneficiary respondents

Employment and secondary work

The main and secondary employment of the main beneficiary respondents is outlined in the table below – 37 of the 44 main beneficiary respondents were actively employed. The majority worked in *sari sari* shops (corner shops, usually in the home) (29.5%) or as street hawkers (15.9%). Beneficiaries with 'other' jobs included a water collector, a rag-maker, two street sweepers, a community volunteer, an editor and a bookbinder.

Of the 44 main beneficiary respondents, 9 had secondary employment (20.5%), which tended to be less formal employment. One beneficiary had secondary employment officiating basketball leagues.

Occupation	*Main occupation*		*Other occupation*	
	Percentage	*Frequency*	*Percentage*	*Frequency*
Unemployed/retired	6.8	3	-	-
Student	2.3	1	-	-
Housewife	6.8	3	-	-
Petty trade – hawker	15.9	7	5.4	2
Petty trade – tuck shop	29.5	13	8.1	3
Retail	4.5	2	0	0
Personal services	2.3	1	0	0
Admin/Government	4.5	2	2.7	1
Education	4.5	2	0	0
Cooking food	2.3	1	5.4	2
Domestic work/ childcare	4.5	2	0	0
Other	15.9	7	2.7	1
Total	100	44	100	9

Average length of time in current main employment

The number of years that beneficiary respondents had spent in their main employment ranged from 0 to 30 years. The average number of years spent in current employment was 7 and a half years.

Contract type

The majority of the main beneficiary respondents (64.1%) were self-employed or business owners, and a fifth (20.5%) had permanent contracts. The beneficiary on the 'other' contract had an informal payment agreement.

Contract type	*Percentage*	*Frequency*
Daily	2.6	1
Weekly	2.6	1
Short-term	7.7	3
Permanent	20.5	8
Self-employed/ owns business	64.1	25
Other	2.6	1
Total	100	39

Average number of hours worked per day, days worked per week, and weeks worked per year

For all beneficiary respondents the average number of hours worked per day was 9.9 hours, the average number of days worked per week was 6.25, and the average number of weeks worked per year was 47.5 weeks. The breakdown of all these averages by employment type are in the table below.

Occupation	*Av. hours per day*	*Av. days per week*	*Av. weeks per year*
Petty trade – hawker	11	6.5	45
Petty trade – tuck shop	12	6.5	49
Retail	9	7	50
Personal services	8	1	52
Admin/Government	8	5.5	47.5
Education	8	5	45.5
Cooking food	-	7	48
Domestic work/ childcare	9	6.5	42
Other	7	6.25	49
Average	9.9	6.25	47.5

Average daily pay

For all beneficiary respondents the daily pay ranged from PHP 40 to 8,333 (USD 0.76 to 158.97), and averaged at PHP 751 (USD 14.33). The breakdown of average daily pay by gender, age and employment type is given in the tables below.

Female beneficiary respondents generally received lower daily pay than male beneficiary respondents, with an average difference of PHP 136 (USD 2.59).

Gender	*Average daily pay (PHP)*
Male	860
Female	724

The highest earners were those beneficiary respondents in the 36-55 age bracket, whilst those in the other two age brackets earned considerably less. It is notable that those aged 55+ earned least of all, on average PHP 569 less per day (USD 10.86) than those aged 36-55.

Age bracket	*Average daily pay (PHP)*
26-35	475
36-55	937
55+	368

With regards to occupation, the highest earners worked in retail, followed by those working as street hawkers. Those with the lowest daily pay on average were those who worked in personal services, domestic work and childcare, and cooking food.

Occupation	*Average daily pay (PHP)*
Petty trade – hawker	1388
Petty trade – sari sari	569
Retail	1944
Personal services	100
Admin/Government	818
Education	888
Cooking food	107
Domestic work/ childcare	111
Other	303

Main beneficiary respondent employment at new residence

Change of employment

Of the 29 beneficiary respondents who responded to this question, 37.9% had changed occupation since the move to their new residence. Of the 9 out of the 11 beneficiary respondents who reported their income change, 44.4% had seen their income increase and 33.3% had seen it decrease. The job trajectories of the 11 beneficiaries who had changed occupation are summarised below.

No.	*Gender*	*Current Occupation*	*Previous Occupation*	*Reason for change*	*Individual income difference*	*Household income difference*
1	***Female***	Water collector and sari-sari store owner	Street food vendor	To give community service and enjoyment	Increase	Increase
2	***Female***	Street sweeper and Avon seller	Bottle washer	Stopped previous job after goiter operation	Increase	Increase
3	***Male***	Sari-sari store owner	Bottle washer	To take care of grandson	Increase	-
4	***Male***	Public school teacher	Teacher at different public school	Moved area	Increase	-
5	***Female***	Sari-sari store owner	Health worker	Retired	Decrease	Increase
6	***Female***	Sells filtered water	Staff at Dunkin Donuts in a mall	To take care of children	Decrease	Increase
7	***Female***	Housewife	Fish seller	-	Decrease	No change
8	***Female***	Sells mineral water	Helped husband in tombstone engraving shop	Taking care of grandchild	Decrease	No change

9	*Female*	Sari-sari store owner	Sold coconut wine	Evicted by city from informal stall	Decrease	Decrease
10	*Female*	Housewife	Baby sitter	-	Decrease	Decrease
11	*Female*	Selling cold water	Sari-sari store owner	Children can support her so she is doing more relaxed work	-	Decrease

Profile of other household members

There were a total of 132 members (including beneficiary respondents) in the 44 households. This equates to an average of around 3 household members per household. Data is incomplete for some of these household members, so percentages and frequencies have been based upon 'valid' figures. The following data relates to the 85 other household members whom are not the main beneficiaries.

Age

Other household members had a reasonably equal spread across the age ranges. However, there were fewer household members aged between 0 and 17 (11.4%) than the other age brackets.

Age bracket	*Percentage*	*Frequency*
0-17	11.4	10
18-25	21.6	19
26-35	22.7	20
36-55	25	22
55+	19.3	17
Total	100	88

Gender

There were significantly more male household members (67.1%) than female members (32.9%). These household members were mostly the children of the beneficiary respondent (34.1%) or a spouse (54.1%).

Relationship/ Gender	*Male*	*Female*	*Total*
Spouse	24	5	29
Child	27	19	46
Parent	3	1	4
Sibling	1	1	2
In-law	1	0	1
Grandchild	0	1	1
Other	1	1	2
			85

Employment profile of other household members

Employment type

Occupation, other household members	*Percentage*	*Frequency*
Unemployed/retired	5.7	5
Student	16.1	14
Housewife	2.3	2
Petty trade - hawker	2.3	2
Petty trade – tuck shop	4.6	4
Retail	10.3	9
Personal services	1.1	1
Admin/Government	11.5	10
Education	2.3	2

Out of the 87 other household members for whom there was data, 24.1% were either unemployed, retired, working as a housewife, or in education, and therefore did not contribute to household income. Of the remaining 63 other working household members, jobs in retail, administration or government roles and construction (as a skilled labourer) were most prevalent. Those in the 'other' category included security guards, a butcher, a seaman and a call-centre agent.

Domestic work/ childcare	1.1	1
Construction - unskilled	3.4	3
Construction – skilled	14.9	13
Construction - supplier	1.1	1
Manufacture - petty	2.3	2
Manufacture – large-scale	3.4	3
Driver	9.2	8
Other	8	7
Total	100	87

Average income

Other household members' incomes ranged from PHP 37 to 1,852 per day (USD 0.71 to 35.33). The average daily wage was PHP 516 per day (USD 9.84).

Contract type

Out of the 63 other household members that were employed (excluding the unemployed, retired, students and housewives) the majority were on permanent (47.6%) or short-term contracts (19%). The household member on an 'other' contract, worked as live-in domestic help and did not receive pay but was allowed to sleep in the house.

Contract type	*Percentage*	*Frequency*
Daily	4.8	3
Weekly	14.3	9
Short-term	19	12
Permanent	47.6	30
Self-employed/ owns business	12.7	8
Other	1.6	1
Total	100	63

Household employment and income

Home working

The responses differed between the questions, but the number of beneficiary respondents working from home had not changed as a result of beneficiaries moving into their LinkBuild properties.

Home-working	*Currently/ after move*		*Before move*	
	Percentage	*Frequency*	*Percentage*	*Frequency*
Yes	47.4	18	40.9	18
No	52.6	20	43.2	19
Total	100	38	100	37

Urban agriculture

Whilst 18 beneficiary respondents professed to working at home, 22 households stated that they took part in urban agriculture. Of those the majority (81.8%) grew crops including papaya, squash, okra, horseradish, spinach, onion, lemongrass, tomatoes, aubergine and herbs. The only livestock kept was chickens.

Urban agriculture type	*Percentage*	*Frequency*
Livestock	13.6	3
Crops	81.8	18
Both	4.5	1
Total	100	22

Transport and travel time

The majority of main beneficiary respondents travelled by public transport (50%) rather than private vehicles (38.1%) or a combination of the two (11.9%). Several respondents had quite long commuting times. More than a fifth (21.4%) travelled for over an hour.

Transport type	*Percentage*	*Frequency*
Private	38.1	16
Public	50	21
Both	11.9	5
Total	100	42

Travel time	*Percentage*	*Frequency*
0-10 minutes	7.1	2
11-20 minutes	17.9	5
21-40 minutes	21.4	6
41-60 minutes	32.1	9
Over an hour	21.4	6
Total	100	28

Average household income

Total beneficiary household incomes ranged from PHP 3,000 to 59,000 per month (USD 57.1 to 1124.27), and the average was PHP 21,178 per month (USD 403.56).

Changes to income and household costs

79.2% of beneficiary households had witnessed a change in their income since moving into their new properties, with more experiencing an increase in income (54.2%) than a decrease (25%). The majority (90.3%) of household finances had been affected by increased costs incurred at the new residences.

Change	*Income*		*Household costs*	
	Percentage	*Frequency*	*Percentage*	*Frequency*
Increased	54.2	13	90.3	28
Decreased	25	6	0	0
Remained the same	20.8	5	9.7	3
Total	100	24	100	31

Time taken to move in

It took beneficiary households up to five years to move into their properties, although some moved in immediately. The average household had to wait 1 year and 2 months to move in.

Mortgage and LinkBuild opportunities

Current and previous mortgage

The average loan repayment of LinkBuild beneficiary households was PHP 2,045 per month (USD 39). The average previous rent or loan was PHP 122 per month (USD 2.32). Therefore, for beneficiary households, the average increase in monthly payments was significant at PHP 1,923 (USD 36.64). However, much of this increase was because beneficiaries used to live in informal settlements where rent payments were low.

Housing federation membership

The majority of beneficiary households (80.5%) were members of a housing federation.

Federation membership	*Percentage*	*Frequency*
No membership	24.4	10
SAMASOL-HOA	34.1	14
CORE-ACS	22	9
Both	19.5	8
Total	100	41

Credit

Of the 41 beneficiary households who answered this question less than half (43.9%) had accessed credit or loans to cover the cost of their property or setting up a business.

Access to credit/loan	*Percentage*	*Frequency*
Yes	43.9	18
No	56.1	23
Total	100	41

Sweat equity

Over half (55.8%) of beneficiary households had contributed sweat equity at the LinkBuild construction sites.

Undertook paid labour	*Percentage*	*Frequency*
Yes	55.8	24
No	44.2	19
Total	100	43

Employment creation programmes

Nearly a third (32.5%) of the 40 beneficiaries who answered this question had accessed employment creation and training programmes as a result of being connected with LinkBuild.

Access to employment creation programmes	*Percentage*	*Frequency*
Yes	32.5	13
No	67.5	27
Total	100	40

Appendix E: Beneficiaries – Davao, Philippines

Researchers conducted interviews with beneficiaries of 24 households in Reall-funded housing projects in Davao. Again, the survey asked them about their individual employment and income as well as that of other household members.

Person profile of main beneficiary respondent

Age

The majority of main beneficiary respondents were aged between 36-55 years (58.3%), although a significant proportion were aged over 55 (25%).

Age bracket	*Percentage*	*Frequency*
18-25	4.2	1
26-35	12.5	3
36-55	58.3	14
55+	25	6
Total	100	24

Gender

There were twice as many main female beneficiary respondents (66.7%) interviewed than male beneficiary respondents (33.3%).

Gender	*Percentage*	*Frequency*
Male	33.3	8
Female	66.7	16
Total	100	24

Employment profile of main beneficiary respondent

Employment and secondary work

The main and secondary employment of the main beneficiary respondents is outlined in the table below – 18 of the 24 main beneficiaries were actively employed. The majority worked in *sari-sari* shops (16.7%) or in administrative or government roles (12.5%). Beneficiary respondents with 'other' jobs

include a Land Transportation Office (LTO) liaison officer, a bet-taker for cockfighting and derby, and a freelance real estate and insurance agent.

Of the 24 main beneficiary respondents 8 had a secondary form of employment (33%), which tended to be less formal employment or family-run businesses.

Occupation	*Main occupation*		*Other occupation*	
	Percentage	*Frequency*	*Percentage*	*Frequency*
Unemployed/retired	12.5	3	-	-
Housewife	12.5	3	-	-
Petty trade – hawker	8.3	2	5	1
Petty trade – tuck shop	16.7	4	5	1
Retail	8.3	2	0	0
Farming	4.2	1	10	2
Admin/Government	12.5	3	0	0
Education	4.2	1	0	0
Driver	8.3	2	0	0
Other	12.5	3	20	4
Total	100	24	100	8

Average length of time in current main employment

The number of years that beneficiary respondents had spent in their current main employment ranged from 1 month to 30 years. The average number of years spent in current employment was 8 years.

Contract type

The majority of the main beneficiary respondents (61.1%) were self-employed or business owners, and nearly a quarter (22.2%) had permanent contracts. The beneficiary on the 'other' contract was paid on a commission basis.

Contract type	*Percentage*	*Frequency*
Weekly	5.6	1
Short-term	5.6	1
Permanent	22.2	4
Self-employed/ owns business	61.1	11
Other	5.6	1
Total	100	18

Average number of hours worked per day, days worked per week, and weeks worked per year

For all beneficiary respondents the average number of hours worked per day was 9.5 hours, the average number of days worked per week was 5.25, and the average number of weeks worked per year was 47 weeks. The breakdown of all these averages by employment type are in the table below.

Occupation	*Av. hours per day*	*Av. days per week*	*Av. weeks per year*
Petty trade – hawker	6.5	6	48
Petty trade – tuck shop	9.25	6.25	49
Retail	3.5	5	30
Farming	8	1	48

Admin/Government	8	4.5	47
Education	8	6	48
Driver	11	6	48
Other	8.5	5	52.5
Average	9.5	5.25	47

Average daily pay

For all beneficiary respondents the daily pay ranged from PHP 74 to 1,666 (USD 1.41 to 3.16), and averaged at PHP 567 (USD 10.77). The breakdown of average daily pay by gender, age and employment type is given in the tables below.

The average daily pay of female beneficiary respondents was only slightly lower than male beneficiary respondents, with an average difference of PHP 39 (USD 0.74).

Gender	*Average daily pay (PHP)*
Male	595
Female	556

The highest earners were the oldest beneficiary respondents in the 36-55 age bracket, closely followed by those aged 26-25. It is notable that those aged 18-25 earn considerably less than the other age groups, on average PHP 431 less (USD 8.19).

Age bracket	*Average daily pay (PHP)*
18-25	126
26-35	619
36-55	691
55+	362

With regards to occupation, the highest earner was a farmer who traded animals, followed by those working in education, driving or other occupations such as a liaison officer, a bet taker, and a freelance real-estate and insurance agent. Those with the lowest daily pay were those who worked in retail businesses.

Occupation	*Average daily pay (PHP)*
Petty trade – hawker	585
Petty trade – tuck shop	519
Retail	153
Farming	1666
Admin/Government	408
Education	784
Driver	656
Other	740

Main beneficiary respondent employment at new residence

Change of employment

Of the 22 beneficiary respondents who responded to this question, 54.5% had changed occupation since the move to their new residence. Of those 12 beneficiaries, 42% had seen their income increase and 50% had seen it decrease. The job trajectories of the 12 beneficiary respondents who had changed occupation are summarised below.

No.	*Gender*	*Current Occupation*	*Previous Occupation*	*Reason for change*	*Individual income difference*	*Household income difference*
1	***Female***	Sari-sari store owner	Unemployed	She didn't used to work	Increase	Increase

2	*Female*	Sari-sari store and internet café owner	Sari-sari store owner	Opened the internet café because there are public elementary and high schools nearby	Increase	Increase
3	*Male*	Pedicab driver, growing and selling bonsai trees	Worked in a junkshop	Former workplace is too far away	Increase	Increase
4	*Female*	Hawker and sari-sari store owner	Sales at biscuit factory	Left sales job when fell pregnant. Different interests since	Decrease	Increase
5	*Male*	Unemployed, selling motorparts	Banana supplies company	He resigned after a disagreement at work	Decrease	Increase
6	*Female*	Online retail	Liaison Officer in Neuro Testing Center	Internal problem with company data/documents	Decrease	No change
7	*Female*	Sari-sari store owner	Carenderia (small eatery) owner	Carenderia not feasible in new area. Not enough people living nearby, wouldn't get enough sales	Decrease	Decrease
8	*Female*	Unemployed	Carenderia and sari-sari store owner	Had to stop working after having a stroke	Decrease	Decrease
9	*Female*	Housewife	Pedicab operator, hawker	Had to sell pedicabs because local gov. banned them in Davao City. Undergoing treatment for diabetes and hypertension	Decrease	Decrease
10	*Female*	Direct sales of cosmetics	Sales staff in private company and Jeepney operator	Had major operation so had to stop work. Sold jeepney as distance too far	Decrease	Decrease
11	*Male*	Trailer truck driver	Trailer truck driver in Saudi Arabia	Working conditions abroad were very unstable	Decrease	Decrease
12	*Male*	House parent	Security guard at a bank	Wife has moved abroad to work as a domestic helper, so he is now a full-time dad	Decrease	Decrease

Profile of other household members

There were a total of 58 household members (including beneficiary respondents themselves) in the 24 households. This equated to roughly 1.4 household members per household on average. Data is incomplete for some of these household members so percentages and frequencies have been based

upon 'valid' figures. The following data relates to the 34 other household members whom are not the main beneficiary respondent.

Age

The majority of other household members tended to be between the ages of 26-35 years old (32.4%) or 36-55 years old (26.5%). This is a good indicator, along with occupation, of the life-stage of households.

Age bracket	*Percentage*	*Frequency*
0-17	17.6	6
18-25	14.7	5
26-35	32.4	11
36-55	26.5	9
55+	8.8	3
Total	100	34

Gender

There were more male household members (64.7%) than female members (35.3%). These household members were predominantly the beneficiary respondents' spouse (47.1%) or children (38.2%).

Relationship/ Gender	*Male*	*Female*	*Total*
Spouse	10	6	16
Child	8	5	13
Sibling	1	1	2
In-law	2	0	2
Grandchild	1	0	1
			34

Employment profile of other household members

Employment type

Of the 30 other household members (excluding main beneficiary respondents) for whom there is data 20.1% were either unemployed, retired, working as a housewife, or in education, and therefore did not contribute to household income. Of the remaining 24 other household members who were working, jobs in administrative or government roles, or driving were most common. Those in the 'other' category included a traffic enforcer, policeman and security guard.

Occupation – other household members	*Percentage*	*Frequency*
Unemployed/retired	6.7	2
Student	6.7	2
Housewife	6.7	2
Petty trade – tuck shop	3.3	1
Retail	10	3
Admin/Government	20	6
Education	13.3	4
Construction – skilled	6.7	2
Driver	16.6	5
Other	10	3
Total	100	30

Average income

Other household members' incomes ranged from PHP 100 to 12,000 per day (USD 1.90 to 228.54). The average daily wage was PHP 1,068 per day (USD 20.69). This is twice the average daily pay of the main beneficiary respondents and may be skewed by one well-paid teacher at a private school. Recalculating without that individual, the average PHP 593 PHP per day (USD 11.27), more similar to the average daily pay of main beneficiary respondents, PHP 567 (USD 10.80).

Contract type

Of the 24 other household members who were employed (excluding the unemployed, retired, students and housewives) the majority were on permanent (34.8%) or short-term contracts (26.1%). A significant proportion of other household members were self-employed or business owners (26.1%). The household member on an 'other' contract was paid on commission.

Contract type	*Percentage*	*Frequency*
Daily	8.7	2
Weekly	0	0
Short-term	26.1	6
Permanent	34.8	8
Self-employed/ owns business	26.1	6
Other	4.3	1
Total	100	23

Household employment and income

Home working

The responses differed between the questions, but the percentage of main beneficiary respondents working from home had increased (10.1%) as a result moving into their LinkBuild properties.

Home-working	*Currently/ after move*		*Before move*	
	Percentage	*Frequency*	*Percentage*	*Frequency*
Yes	36.8	7	26.7	4
No	63.2	9	73.3	11
Total	100	19	100	15

Urban agriculture

Although only 7 main beneficiary respondents said they were working at home, 9 (37.5%) took part in urban agriculture. Of those, the majority (88.9%) grew crops including produce such as horseradish (*moringa*), aubergine, sweet potatoes (*camote*), lemongrass and chili. It was explained by some that keeping livestock was prohibited, and many complained that the plots were too small to grow anything.

Urban agriculture type	*Percentage*	*Frequency*
Livestock	11.1	1
Crops	88.9	8
Total	100	9

Transport and travel time

The majority of beneficiary respondents travelled by private cars or motorbikes (54.2%) rather than public transport (33.3%) or a combination of the two (12.5%). Long commuting times were common and, many beneficiary respondents (40%) travelled for over an hour.

Transport type	*Percentage*	*Frequency*
Private	54.2	13
Public	33.3	8
Both	12.5	3
Total	100	24

Travel time	*Percentage*	*Frequency*
0-10 minutes	20	3
11-20 minutes	0	0
21-40 minutes	26.7	4
41-60 minutes	13.3	2
Over an hour	40	6
Total	100	15

Average household income

Total household incomes ranged from PHP 9,200 to 78,300 per month (USD 175.21 to 1491.22), and the average was PHP 27,702 per month (USD 524.04).

Changes to income and household costs

62.5% of beneficiary households had witnessed a change in their income since moving into their new properties, with more experiencing an increase in income (37.5%) than a decrease (25%). The majority (75%) of household finances had been affected by increased costs incurred in the new residences.

Change	*Income*		*Household costs*	
	Percentage	*Frequency*	*Percentage*	*Frequency*
Increased	37.5	9	75	18
Decreased	25	6	8.3	2
Remained the same	37.5	9	16.7	4
Total	100	24	100	24

Time taken to move in

It took beneficiary households up to five years to move into their properties, although some moved in within a month. The average household had to wait 1 year and 10 months to move in.

Mortgage and LinkBuild opportunities

Current and previous mortgage

The average current mortgage repayment of LinkBuild beneficiary households was PHP 2,529 per month (USD 48.16). The average previous mortgage or rent was PHP 1,633 per month (USD 31.10). Therefore there had been an average increase of PHP 896 (USD 16.95) each month to the cost of mortgage repayment amongst the beneficiaries.

Housing federation membership

All beneficiary households had membership of one or more housing federations.

Housing federation membership	*Percentage*	*Frequency*
SAMASOL-HOA	12.5	3
CORE-ACS	16.7	4
HPFPI	33.3	8
SAMASOL and CORE-ACS	8.3	2
SAMASOL and HPFPI	29.2	7
Total	100	24

Credit

Out of the 22 beneficiary households who answered this question 72.7% had accessed credit or loans to cover the cost of their property.

Access to credit/loan	*Percentage*	*Frequency*
Yes	72.7	16
No	27.3	6
Total	100	22

Sweat equity

Undertook paid labour	*Percentage*	*Frequency*
Yes	56.5	13

No	43.5	10
Total	100	23

Just over half (56.5%) of beneficiary households had contributed sweat equity at the LinkBuild construction sites. The total amount of sweat equity ranged from PHP 30,000 to 45,000 (USD 571.35 to 857.02), with an average of PHP 33,000 (USD 628.49).

Employment creation programmes

Just over a fifth (21.7%) of the 23 beneficiary households who answered this question had accessed employment creation and training programmes as a result of being connected with LinkBuild.

Access to employment creation programmes	*Percentage*	*Frequency*
Yes	21.7	5
No	78.3	18
Total	100	23

Appendix F: Manufacture and supply – Nairobi, Kenya

Core housing, Malaa (NACHU)

Material	Unit	Work-hours per unit to manufacture	Qty. per house	Manufacture work-hours per house
Concrete (pre-mixed)	m3	1.79	15.20	27.20
Steel bars	kg	0.02	153.19	3.12
Timber	LM	0.08	186.86	14.70
Hardcore	m3	0.11	27.11	3.07
Natural stonework	m2	0.222	49.03	10.87
Foundation stones	m2	2.49	14	34.84
Steel roof sheets	m2	0.14	26	3.56
Steel doors	door	14	1	14
Wooden doors	door	5.76	2	11.53
Door frames	frame	7	3	21
Steel window frames	frame	13.33	3	40
Glass	pane	0.30	60	17.91
Murram	m3	32	1.76	56.32
Sand	m3	2.32	12.43	28.89
PVC pipe	kg	0.072	112.04	8.04
Truck transport	-	-	-	2
			Total work-hours per house	297.09
			Total work-days per house	37.14

Material	Unit	Work-hours per unit to supply	Qty. per house	Supply work-hours per house
Concrete (pre-mixed)	m3	0.02	15.20	0.30
Steel bars	kg	0.22	153.19	33.70
Timber	LM	0.16	186.86	29.90
Hardcore	m3	0.04	27.11	1.08
Natural stonework	m2	0.945	49.03	46.33
Foundation stones	m2	1.01	14	14.14
Steel roof sheets	m2	0.0081	26	0.21
Sand	m3	0.0061	12.43	0.08
PVC pipe	LM	0.061	30.86	1.88
			Total work-hours per house	127.63
			Total work-days per house	15.95

Appendix G: Manufacture and supply – Cebu, Philippines

Loftable row housing, Tipolo (LT-HAI)

Material	Unit	Work-hours unit to manufacture	Qty. per house	Manufacture work-hours per house
Coco lumber	board feet	0.23	14.15	3.27
Ribbed roofing	LM	2.21	24.83	54.87
Cement	kg	0.01	1350	19.72
Ordinary sand	m3	4.30	2.83	12.20
Fine sand	m3	1.20	1.17	1.40
Gravel	m3	4.50	4.25	19.32
Deformed bars	kg	0.007	389.67	2.60
ICEB blocks	blocks	0.06	1780.17	106.99
C-Purlins	pieces	0.22	14.58	3.24
PVC pipes	pieces	0.30	42	12.60
Concrete hollow blocks (CHB)	blocks	0.80	111.67	89.33
Doors	set	2.46	3	7.38
Windows	set	2.46	6	14.76
			Total work-hours per house	347.69
			Total work-days per house	43.46

Material	Unit	Work-hours unit to supply	Qty. per house	Supply work-hours per house
Plywood	sheets	0.18	1.08	0.19
Corrugated sheet	sheets	0.66	1	0.66
Ribbed roofing	LM	0.27	24.83	6.60
Cement	kg	0.015	1350	20.25
Sand	m3	0.55	4	2.21
Gravel	m3	1.07	4.25	4.53
Deformed bars	pieces	0.18	69.83	12.31
C-Purlins	pieces	0.69	8.58	5.95
PVC pipes	pieces	0.60	45.50	27.30
Concrete hollow blocks (CHB)	blocks	0.20	111.67	19.65
Doors	set	2.16	3	6.48
Windows	set	2.16	6	12.96
Coco lumber	board feet	0.28	14.15	3.96
			Total work-hours per house	123.06
			Total work-days per house	15.38

Two-storey row housing, Paknaan (SMASH)

Material	Unit	Work-hours unit to manufacture	Qty. per house	Manufacture work-hours per house
Corrugated sheet	LM	2.21	29.75	65.74
Cement	kg	0.01	2290	33.46
Fine sand	m3	1.20	3.58	4.30
Gravel	m3	4.50	4.92	22.35
Deformed bars	kg	0.01	641.24	4.27
Limesoil	TL	0.0000016	0.17	0.00000027
ICEB blocks	blocks	0.06	2939.92	176.70
C-Purlins	pieces	0.22	36.75	8.17
PVC pipes	pieces	0.30	42	12.60
Concrete hollow blocks (CHB)	blocks	0.80	128.83	103.07
Doors	sets	2.46	4	9.84
Windows	sets	2.46	5	12.30
			Total work-hours per house	452.79
			Total work-days per house	56.60

Material	Unit	Work-hours unit to supply	Qty. per house	Supply work-hours per house
Plywood	sheets	0.84	1	0.84
Corrugated sheet	LM	0.27	29.75	7.91
Cement	kg	0.02	2290	53.45
Sand	m3	0.60	3.58	1.98
Gravel	m3	1.07	4.92	5.24
Deformed bars	pieces	0.18	114.92	20.26
Limesoil	TL	0.00019	0.17	0.000032
C-Purlins	pieces	0.69	27.75	19.24
PVC pipes	pieces	0.60	36.50	21.90
Concrete hollow blocks (CHB)	blocks	0.20	128.83	22.67
Doors	sets	2.16	4	8.64
Windows	sets	2.16	5	10.80
			Total work-hours per house	172.94
			Total work-days per house	21.62

Appendix H: Manufacture and supply – Davao, Philippines

Core housing, Los Amigos (SAMASOL)

Material	Unit	Work-hours unit to manufacture	Qty. per house	Manufacture work-hours per house
Coco lumber	board feet	0.19	186.50	35.78
Deformed bars	lengths	0.11	79	8.91
Cement	kg	0.02	1920	28.80
Sand	m3	2.30	6	14.48
Gravel	m3	2.67	3	8
Concrete hollow blocks	pieces	0.80	125	100
ICEB blocks	pieces	0.04	1686.90	71.85
C-Purlins	lengths	0.22	22	4.84
Roofing sheets	sheets	9	4	34.56
PVC pipes	lengths	0.30	18.90	5.67
Door	piece	4	1	4
Window	unit	2.46	6	14.76
			Total work-hours per house	331.64
			Total work-days per house	41.45

Material	Unit	Work-hours unit to supply	Qty. per house	Supply work-hours per house
Coco lumber	board feet	0.28	186.50	52.84
Plywood	sheets	0.16	5	0.80
Deformed bars	lengths	0.20	79	15.80
Cement	kg	0.02	1920	42.50
Sand	m3	2.40	6	15.12
Gravel	m3	2.40	3	7.20
Concrete hollow blocks	pieces	0.16	125	20
Roofing sheets	sheets	0.40	4	1.60
PVC pipes	lengths	1.07	18	19.20
Door	piece	2.80	1	2.80
Window	unit	2.67	6	16
			Total work-hours per house	193.85
			Total work-days per house	24.23